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ORIGINAL LECTURES.

ON THE TREATMENT OF CHRONIC RHEUMATISM AND GOUT.¹

A Clinical Lecture.

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GENTLEMEN: I propose in this lecture to consider the treatment of chronic rheumatism and of gout. By these words chronic rheumatism I do not mean all chronic forms of rheumatism, but rather that variety which affects the bones, and which is characterized by those deformities of the small joints which have given to this affection the name of *nodose rheumatism* or *arthritis deformans*.

Confounded from remote antiquity under the name of arthritism, gout and chronic rheumatism have been now grouped in the same description, now constituted as distinct entities, according as writers have taken for their basis the etiology, the symptomatology, or the pathological anatomy of these two affections. To-day this question, after many vicissitudes, seems to have reverted to the point from which it started, and if we observe between gout and rheumatism differences radical and complete, we recognize also that they may derive their origin from one common hereditary source.

To this hereditary cause of these two diseases we give the name of arthritism, and if gout and rheumatism have at their origin many points of contact, they soon separate in two divergent directions, of which the two extremes are chronic arthritis deformans, on the one hand, and acute gout on the other. This opinion, which I defended at the time of the discussion which arose in the Society of Hydrology, between the partisans of arthritism and those who, like Durand Fardel, persist in seeing in gout, chronic rheumatism, and acute rheumatism distinct morbid entities, I maintain to-day, for when you carefully trace back the genealogy of arthritic patients, you almost always find either rheumatism in all its forms, or gout in all its modalities. At the same time, take note that quite recently our colleague Lancereaux has withdrawn arthritis deformans and dry arthritis from the category of arthritism to place this affection in the group of herpetic disorders. But this is a new view which needs to be discussed before being adopted.

Scarcely recognized at the beginning of this century, chronic rheumatism with articular deformity, which is described under the name of *nodose rheumatism*, has not been well understood till within a few years, and it is especially to the School of Salpêtrière and its eminent master, Prof. Charcot, that we are indebted for the exposition, both from the standpoint of symptomatology and pathological anatomy, of the palpable and striking

differences between gout and arthritis deformans, to the latter of which even now some authorities persist in giving the name of *gouty rheumatism*.

Even if we well understood the lesions of chronic rheumatism (arthritis deformans), the pathogeny and the course of the affection, it must be confessed that the therapeutics of this disease has made little progress, and our efforts remain well-nigh impotent to arrest the progressive and invading march of those lesions which eventually constitute incurable infirmities, and condemn the unhappy patient to a life of invalidism.

The treatment of chronic rheumatism comprises external and internal means. The internal treatment comprehends but few medicaments; those most in use are arsenic and arsenical preparations, iodine and the iodides, and salicylate of soda. Arsenic is given internally, as Charcot recommends, or employed in the form of arsenical baths (which have been especially vaunted by Noel Gueneau de Mussy); this treatment, whether it consists in the internal administration of arsenic or in the use of the baths, often provokes a return of the painful crises; hence this medicament should not be resorted to when there are any acute symptoms.¹

However different these two modes of exhibiting arsenic may be, their principle of action is essentially the same, namely, by absorption of the medicament and its penetration into the economy, the rate of whose nutrition is raised. It must be confessed, however, that cutaneous absorption from baths is infinitesimal or nil.

Iodine has been employed in chronic rheumatism by Lasègue. He made use of the tincture, of which he was in the habit of giving large doses, as much as a drachm and a half a day (6 grammes). It is given diluted in water, or, what is better still, in a little old Spanish wine, which constitutes a mixture which is but slightly disagreeable and is easily taken with the meals. Instead of iodine, iodide of potassium may be given. Besnier proposes to give the iodide in syrup of coffee, which he thinks is the best adjuvant, and from 1 to 3 grammes a day (15 to 45 grains) may be given in this way. Iodine and the iodides in these cases act especially by stimulating the organism and energizing nutrition. These are the most important indications to fulfil in the treatment of chronic rheumatism, and

¹ Translated from advance sheets by E. P. Hurd, M.D., of Newburyport, Mass.

¹ Gueneau de Mussy has recommended two kinds of arsenical baths; the arsenical bath pure, which contains from fifteen grains to two drachms of arseniate of soda per bath, and the compound arsenical bath, which with the same quantity of arseniate of soda has from three to five ounces of carbonate of soda. Apropos of the application of these baths, Gueneau de Mussy distinguishes two forms of rheumatism: chronic rheumatism with little pain, and rheumatism with subacute attacks. In the first kind he would employ the compound arsenical bath, in the second the bath containing only the arsenical salt. The temperature of the bath varies from 86° to 95° F. (30° to 35° C.); as for its duration, that depends on the degree of excitability of the patient. (Gueneau de Mussy, Clin. Med., t. i. p. 271, Paris, 1874.)

Garrod has justly insisted on this point in showing us that the dominant fact of the treatment ought to be to fortify the system and to excite the nutritive activity, which is considerably lessened; consequently, he recommends ferruginous preparations, cinchona bark, and, above all, cod-liver oil.

These indications are quite different from those which are applicable to the treatment of simple gout, and which should make us altogether discard in the treatment of chronic rheumatism the alkalies, which are heroic medicines in the gouty diathesis. This proscription of alkaline preparations ought not to include salicylate of soda. Whatever Sée may have said, who has affirmed that salicylate of soda may cure chronic rheumatism, I have never obtained the same effects from it. Nevertheless, while recognizing that it is impotent to attempt to cure chronic rheumatism with joint deformities, the salicylate may be employed to advantage in the acute exacerbations which attend this disease; it diminishes then both the acuteness of the pain and the intensity of the febrile manifestations.

The internal treatment, then, of chronic rheumatism may be summed up in a few words: arsenic in appropriate cases, iodide in others, and salicylate of soda in the periods of exacerbation.

The external treatment is much more complex. It comprises, first, all the local means which I enumerated *à propos* of acute rheumatism, as well as most of the artificial baths which I have described; but to these means we must join others which have a very marked action in chronic rheumatism, in the first rank of which we place electricity. Whether the rheumatism has exerted its action primitively on the muscular tendons, or whether it has affected first the bony or fibrous parts of the articulation, it seems to be demonstrated that the deformities of chronic rheumatism, which are so numerous, depend on the retraction of certain muscular groups. There are even cases in which rheumatism very speedily causes atrophy of the muscles, producing in this way considerable loss of power in the limbs, and without any apparent deformity.

It is easy to understand the utility of electro-therapeutics in such cases. If you employ this agent, you must use galvanic currents, which have an influence on nutrition in general, and that of the muscles in particular. Erb, Remak, Onimus, Jules, Cheron, etc., have long insisted on the remarkable action of these currents in causing the articular deformities gradually to disappear, and, for my part, I have obtained successful results of this kind which are really marvellous. You should then always have recourse to constant currents when the phenomena of muscular irritation have disappeared. If you resort to this powerful therapeutic agent in time, you will be able to restore movement, and the use of the affected joints, and to attain this you should, as Dally has recommended, associate massage with the employment of electricity. To these powerful means of treatment in chronic rheumatism, the methodical employ of mineral waters should be added.¹

[¹ Walton (Mineral Springs of the United States and Canada) very properly divides rheumatics into two classes, those of the lymphatic temperament, and those of the nervous. In the former, waters rich in the sulphurets have seemed to produce the best results, and baths of a high temperature are indicated; in the nerv-

The necessity of tonic treatment should influence you in advising the dietary of these rheumatic patients, and all your efforts should be directed toward augmenting their nutrition. You should order a substantial nourishment such as red meats, generous wines, for, contrary to what takes place in gout, the uric acid diathesis does not exist in chronic deforming rheumatism. Urge the need of out-door air and exercise, to combat the muscular atrophy of the members. You should especially insist upon the necessity of avoiding damp cold. The impression of cold is one of the most active causes in the production of rheumatism, whether it acts directly on the nervous system, as Heyman thinks, or in modifying the functions of the skin, permitting, as Hueter and Klebs believe, the introduction of organized phlogistic agents in the blood. This effect of cold is admitted by all observers, and is especially seen at periods of life when the body is most likely to be exposed to sudden changes in temperature; you must then avoid these variations of temperature, and their results, which often depend on the rapid evaporation of perspiration, by making your patient wear flannel and shun exposure to the winds, and particularly to the west wind.

You should have a surveillance also of the dwellings of your patients, providing as far as possible that the conditions of the habitation shall be of a sanitary kind, with apartments airy and free from moisture and the moulds which moisture generates,—cryptogamic productions which Moses in Leviticus characterizes as the plague in the walls of the houses (Leviticus, 14, 36, etc.). Therefore, whenever your patient is well enough off to afford it, you should insist on his avoiding the autumn rains, by going early to the winter stations. In a word, do not forget, gentlemen, that rheumatic arthritis, which has been called "poor man's gout," affects only those individuals whose nutrition is impoverished and enfeebled, and that all your efforts should be directed toward restoring the forces of the organism and stimulating the nutritive exchanges. This it is that explains how the treatment by arsenic and the iodide of potassium, the tonic medication under all its forms, is of use in these cases without being able always absolutely to oppose the invading march of the disease, which is generally fatal in the end.

Gout presents quite different indications of treatment,

ous temperament, however, waters containing but a small proportion of these constituents and of moderate heat, like the Virginia Hot Springs, are preferable. The hot sulphur springs have been much recommended in the treatment of chronic deforming rheumatism; these benefit more by their elevated temperature than by any saline or sulphurous constituents. We have a great variety of such springs in this country. We may instance the so-called Hot Springs, in Garland County, Arkansas, whose waters resemble those of Gastein, in Austria, and Pfäfers, in Switzerland; the Calistoga Hot Springs in Napa County, California; the California Geysers; the Santa Barbara Hot Sulphur Springs in California; the Middle Park Hot Sulphur Springs in Colorado; the "Warm Springs," in Madison County, North Carolina; springs of the same name in Meriwether County, Georgia; the Lebanon Springs in Columbia County, New York; the Hot Springs of Bath County, Virginia; and, lastly, the Salt Lake Hot Springs in Utah. The hot springs of Virginia and Arkansas are very fashionable places of resort; to the treatment by baths are conjoined massage and douches.]

and the adage that to contrary affections contrary remedies are indicated, is especially applicable to these two diseases, gout and chronic rheumatism, which, born of a common parent, are distinct diseases from a clinical as well as from a therapeutical standpoint. While we can observe at our hospital chronic rheumatism under all its forms (and grave cases are not wanting), we seldom or never meet with gout; or at least but one kind of gout is common in our wards, that from lead-poisoning, and I have already shown you, in my service, curious examples of this affection, whose description we owe to Charcot, Garrod, Ollivier, and Lancereaux. But in your private practice it will not be so, and you will there meet with a considerable number of gouty patients, although their number tends to become less every day. This diminution results chiefly from the fact that the number of idle men tends also to decrease and that the struggle for existence demands of almost everybody a certain amount of daily labor.

Without entering here into the details of the different theories that have been put forth as to the pathogeny of gout, it may be said that the humoral theory of the disease has always counted the most adherents. According to Sydenham, gout is the result of a peccant humor, a morbid matter, which nature endeavors to get rid of. Substitute for these words *peccant humor, morbid matter*, uric acid and urate of soda, and you will have the theory to-day admitted by physicians generally; and notwithstanding the reserves recently formulated by Bouchard, it seems to be proved that every attack of gout is due to an excess of urate of soda. But it is not sufficient to know that this excess of uric acid is the first cause of gout, we need chiefly to know the reason of this accumulation.

Since the time when, in 1793, ninety years ago, Forbes Murray affirmed the starting-point of gouty symptoms to be the presence of uric acid in the humors of the economy, many hypotheses have been advanced to explain the first cause of this uric diathesis. Residuum of the imperfect combustion of albuminous matters, cinders, as it were, of the economy, uric acid is the result of the incomplete nutritive operations of the human system. Urea, which is a more perfect product of organic combustion, has an origin which varies according to the ideas advanced as to its production; thus it is that Provost and Dumas regard this substance as the result of an oxidizing process in the capillaries, while Robin and Bouchardat consider it as a product of disassimilation, and, on the other hand, Brouardel, Charcot, and Murchison, think that the liver chiefly is concerned in its elaboration.

Whatever theory one may adopt, the main fact that you should bear in mind, is that there will be increase or diminution in the production of uric acid according as nutrition is perfect or imperfect. As for the accumulation of urea and uric acid, it may result from two causes which shed light on the pathogeny of gout. In the one case the uric diathesis has for its origin excess of production; in the other, the production remains the same, but there are troubles in the function of the kidneys which prevent the elimination of uric acid, and it is these two great factors which we shall have to study when we examine the prophylactic treatment of gout.

The medicines recommended for gout are very nu-

merous; their number was considerable in the time of Lucian, if we may judge by his dialogue on gout.¹

In order to give system to the exposition of this subject, I shall consider it under several heads, and examine successively the treatment of gouty paroxysms, the treatment of gout apart from the paroxysms, and finally the hygienic and thermal treatment which occupies the first place among the prophylactic means.

Gout, as you know, manifests itself in paroxysms, and without giving you here a symptomatic description of these attacks, which have never been more admirably portrayed than by Sydenham in his treatise on gout, I will mention especially the dyspeptic prodromes and the pains in the joints which acute gout determines.

The perturbation of the functions of the stomach plays a considerable part in the attacks of gout, and this is so generally known that gout has even been attributed to functional derangements of the stomach. I have already spoken of these gouty dyspepsias in those lectures which treat of diseases of the stomach.

As for the pains in the joints, these affect, as you well know, in the great majority of cases, the metatarso-phalangeal articulation of the great toe, and cause horrible suffering. The skin over the inflamed joint takes on a violaceous tint, and has a shining aspect which enables you to diagnose a fit of gout at first sight. You know to-day that these joint phenomena are due to the presence in the interior of the articulation of crystals of urate of soda, and you are aware that the least disturbance of the limb will exasperate the pain; you also know that the urate of soda, the morbid agent of the gout, may cause certain saline deposits, known as *tophus*, around the joints.

But there is a disputed question which we must now meet, viz., whether it is best to treat at all a fit of gout. Moved by the grave accidents which may occur in the course of a gouty paroxysm, and especially struck by the disappearance of the gouty symptoms when visceral complications arise, the older physicians assigned an important part to metastasis in the production of these phenomena of visceral gout. Adopting in their entirety the ideas of Sydenham, they thought that it was dangerous to interfere in the gouty paroxysm for the reason that the attack was the result of a tendency on the part of the economy to throw out peccant humors; if this elimination did not take place, they thought that this morbid matter, attacking the lungs, heart, and brain,

¹ "What mortal on earth does not know that I am gout, invincible sovereign of all pains? . . . Pan, with his remedies, cannot triumph over me, though he be physician to the gods in Heaven, nor can Esculapius, son of Phœbus. The human race has in vain invented a thousand artifices against me. One, bruises plantain; another, celery; this one, lettuce leaves or wild parslane; that one, leeks, nettles, and comfrey; others prepare ligusticum, wild parsnep, peach leaves, henbane, poppies, boiled onions, pomegranate bark, flea-wort, hellebore, fenugreek infused in wine, frog-spawn, cypress gum, brine, sheep-dung and other excrements. Who does not know that there is no insect or animal so vile as not to have entered into the composition of some of these specifics? What minerals have men not tried, or what vegetable production? What excretion too abominable for medicinal use? . . . But I, who cause the whole earth to weep, only irritate myself the more against those who employ these means, and who attempt to drive me away. Those, however, who make no resistance I often treat with kind and benevolent consideration."—*From Lucian's Dialogue on Gout.*

would produce very serious complications referred by them to retrocession.

Thanks to the progress of pathological anatomy, we have an explanation more true, more scientific, and more exact of this metastasis, and we know to-day that it is occasioned by uræmia. In fact, the kidney plays an important rôle in the symptomatology of gout. Under the influence of the constant irritation which is determined by the passage of urine loaded with uric acid, the renal canaliculi become inflamed or obliterated in part, and then supervenes either interstitial nephritis or fatty metamorphosis of the kidneys, and it is to this aggregate of lesions that the name of gouty kidney has been given. These lesions, by impeding the functions of the renal filter, entail consequences more or less grave, some pertaining to uræmia, others having a marked influence on therapeutics, and explain why certain medicines administered to the gouty, have even been attended with fatal results.

We find here also an application of a fact to which I have called your attention before in the course of these lectures. It is that when elimination by the kidneys is at fault, you obtain not the medicinal effect desired, but the toxic action of the substance which you employ. This, too, explains why our forefathers were afraid of active interference in gout; it also shows the necessity of great prudence in the treatment of this disease, and careful daily examination of the urine, and this, not only with reference to the albumen which it may contain, but also to the extractive matters in that excretion. These reserves being made, I believe it to be the duty of the physician actively to treat attacks of gout, discarding altogether the precept of Cullen, who summed up in the two words, "patience and flannel," the whole treatment of gout.

A great number of medicaments have been proposed for acute gout,—antiphlogistics, purgatives, sudorifics, specifics, etc. Bloodletting, whether general or local, once much in usage, as, for instance, in the celebrated remedy of Paulmier, which consisted in the application of twenty or thirty leeches around the joints, is completely abandoned. Nevertheless, Garrod thinks that in certain exceptional circumstances one may have recourse to local emissions of blood with advantage, and Gairdner is of the same opinion. However, it is not easy to see what good this local bleeding can have in acute paroxysms, being powerless to modify the uric diathesis—the cause of the affection.

As for sudorifics and purgatives in this disease, their value has long been discussed. Among the first, guaiacum deserves a place, once of great reputation as a specific in gout, and Ackermann, Metzger, Weismantel, have vaunted its anti-arthritis properties. The essence of guaiac serves as the basis of the celebrated remedy of Carabes, the anti-gouty syrup of Boubee, and the syrup of Vicq d'Azyr and of Gall.¹

¹ The famous remedy of Carabes is principally composed of the alcoholic tincture of guaiacum. The anti-gouty syrup of Boubee has this formula:

R.—Sarsaparilla root,	40 parts.
Resin of guaiacum,	15 "
Jalap,	9 "
Mustard,	9 "
Mix.	

To-day guaiacum is almost completely abandoned, and if it were desirable to resort to sudorifics it would be better to employ jaborandi and pilocarpine. But although urea does to some extent undergo elimination by perspiration, this elimination is too insignificant to afford a real relief to the patient, and while recognizing that it is a good thing to promote the functions of the skin during the fit of gout, I do not think that we can count much on sudorifics to the exclusion of other remedies.

It is the same with purgatives, to which Scudamore had attributed curative virtues in the attack of gout, while Sydenham, on the contrary, discarded them altogether. Purgatives have no other effect during a fit of gout than to keep the bowels open, and this is generally necessary by reason of the constipation which is habitual in such cases. The purgatives to which you should always have recourse are chiefly mineral waters, such as those of Hunyadi Janos, Püllna, Carlsbad, the American Hathorn water, etc., which should be given only in sufficient quantity to maintain regular action of the intestines.

I pass rapidly over mercurial treatment, vaunted by Musgrave and Hamilton; antimonials which serve as a basis for Quarin's cure (of precipitated antimony and phosphate of lime), and James's powder (of precipitated antimony and phosphate of lime), to come to medicaments which have a real specific action in gout. I refer to sulphate of quinine, to colchicum, and to salicylate of soda.

Influenced by the intermittency which characterizes the gouty paroxysm, quinine has been recommended in its treatment, and it is doubtless true that this medicine mitigates, to some extent, the intensity of the attack. Quinine may be given with other medicines, and especially with colchicum. Colchicum is the veritable specific in gout, and Fievée has gone so far as to affirm that colchicum is to gout what quinine is to fever and ague. Nevertheless, colchicum is absolutely an empirical medicine, for if clinical experience every day witnesses its good effects in gout, experimental physiology has little to say in explanation of those effects.

Colchicum is a bulbous plant with violaceous flowers, which flourishes in abundance in our meadows, and which our herds carefully shun, for it constitutes for them a poison of great activity. The bulb, the seeds, and the flowers are used in medicine, being made into tinctures, alcoholic extracts, and wines, which are the modes of administration most often employed. As the different parts of the plant do not contain the same quantity of active principle, it is necessary to specify in your prescriptions the part of the plant which you desire to administer. Although the tincture of the flowers, known under the name of Hahnemannian tincture, has

Boil in 300 parts of water for two hours, and add sugar enough to form a syrup.

The anti-arthritis pills of Vicq d'Azyr have also guaiacum for a basis; the formula is as follows:

R.—Castile soap, 4 parts.
Ox gall, 2 "

Mix and incorporate guaiacum resin, calomel, of each 1 part.

M.—Make into pills each weighing 20 centigrammes. Dose, one or two morning and evening.

The pills of Gall contain, besides extract of guaiac, a little anti-mony and opium.

been vaunted by several authorities, and in particular by Debout, it is generally preparations of the seeds which you should order, and you can administer the tincture and the fluid extract in the dose of ten drops to a teaspoonful daily, watching carefully the result of your doses, for the therapeutical effect varies according to individuals. Some can bear large doses without inconvenience, while others experience toxic results from very small doses. These troubles consist, as you know, in diarrhœa and vomiting; these effects you should avoid. You ought then to order the tincture of colchicum in doses consisting of a certain number of drops, remembering that twenty drops weigh thirty-nine centigrammes. You can give twenty drops morning and evening without any inconvenience, and increase the dose according to the needs.

But you will ask, since the active principle is unequally distributed in the plant, why not give this active principle itself? Here we find ourselves in the same embarrassment as in the case of digitalis, and just as there have been found several digitalines, so there have been found several active principles in colchicum. Hess and Geiger, for instance, have extracted from colchicum *colchicine*, Oberlin, *colchicine*, Hubler, still another alkaloid, so that the question of the veritable active principle of colchicum is still undecided. Therefore, in the midst of this uncertainty I think it is better, as in the case of digitalis, to employ the plant itself, indicating, as before said, the tincture of the seeds, or root, or whatever other preparation you wish to employ. The tincture of colchicum may be associated with other substances, and it is this combination which characterizes the majority of the popular remedies for gout, such as Laville's tincture (liqueur Laville), the wine of Anduran, the tincture of Cocheux, the pills of Lartigue, and many others, which I pass over in silence. If you do not desire to recommend any of the proprietary nostrums, you can prescribe combinations just as useful, such as the following, which is a good formula:

R.—Tincture of colchicum,
Alcoholic tincture of aconite root,
Compound tincture of jalap,
Tincture of quinine, 3ss.—M.

Sig.—Thirty drops, morning, noon, and night, in a wineglassful of some bitter potion, such as infusion of *fraxinus excelsior*.

The European ash has had a great reputation in the treatment of gout, and Pouget and Peyraud consider it as a genuine specific. Moreover, the number of indigenous plants regarded as antiarthritic is considerable, and to give you an idea how numerous they are, you have only to refer to the electuary once vaunted by Sydenham (this electuary consists of twenty-nine articles). Among these plants I will mention only one—aconite, whose administration mitigates the pains from which gouty patients suffer: therefore, I think that it is always well to combine aconite with your colchicum. Alkalies have little curative action in acute attacks of gout, and constitute only an adjuvant medication. During my trials with propylamine and trimethylamine, I obtained in certain patients (and in particular an illustrious marshal of France) disappearance of the gouty attack under the influence of these medicaments; but now, these ammoniacal compounds deserve to give place to

a medicine much more energetic and certain, viz., salicylate of soda.

Salicylate of soda has an evident curative influence in gouty paroxysms, and it owes its action to several causes: first, because it favors elimination of urea and uric acid (you know, in fact, that salicylic acid is eliminated in the urine under the form of *salicyluric acid*); next, because this medicament is a powerful analgesic of the articular pains; and, finally, because it has an antipyretic action similar to that of quinine. Therefore, German Sée has rightly insisted on the advantages which may be derived from salicylate of soda in the treatment of attacks of gout, and here the rules of administration are the same as for acute articular rheumatism. But it is necessary in these cases to pay particular attention to the state of the kidneys, for as I have already told you, the impermeability of the renal organs may render the administration of salicylates dangerous, and this it is that explains the divergence of opinions which have been put forth respecting the advantages and inconveniences of this medication in gout.

The external treatment of gout is a matter of much less importance than the internal medication. Many local means have been recommended in the acute paroxysms, from ointments and pomades in current use, to more complex formulas, and even to *horse-chestnut oil*; from applications as hot as can be borne, to the use of ice around the joint;—all have been counselled in these arthritic inflammations. I believe, and in this I am supported by Garrod, that all these applications are useless, and even dangerous. It suffices to consider the state of these joints, the fiery redness of the skin around them, the pain of which they are the seat, to convince one that frictions of an irritant nature may inflict grave disorders on the cutaneous surface thus inflamed. Therefore, in view of the trifling benefit of these local applications on the one hand, and their danger on the other, I advise you to discard all these pomades and ointments, and to surround the foot with a layer of finely carded cotton, which will give immobility to the affected joints and protect them from the air.

To sum up then, when you are called to treat an attack of gout, you will first assure yourself of the integrity of the kidneys, then you will administer salicylate of soda in doses of from one to one and a half grammes, or, if you prefer, the tincture of colchicum seeds combined with quinine or strong tincture of aconite root. If, on the contrary the kidneys are damaged, or if the heart seems to be degenerated, you will have to content yourselves with giving alkaline diluents and keeping the bowels open with saline purgatives; besides enswathing the affected member with wadding around which is placed oiled silk.

But it is not enough to combat the attack of gout, something must be done to prevent its return, and here we have many means at our command, both pharmaceutical and hygienic. Whatever theories may be admitted in explanation of uræmia, it is against this condition that all our efforts should be directed; here then is the place for the alkaline medication under all its forms. I will be more brief in the exposition of this part of my subject, because I have already, in a former lecture, spoken to you of the treatment of the uric acid diathesis.

All the alkalies may be employed, soda as well as potassa, but there is one that seems to me better than all the others, viz., "lithia," which Garrod recommends. I need hardly tell you that the dose of carbonate of lithia is seven or eight grains (fifty centigrammes) given at meal-time in carbonic acid water; the effervescent salts of lithia are good preparations. Benzoic acid and the benzoates have also been highly extolled, and combinations of benzoic acid with alkalies are in use, such as the double benzoate of soda and lithia, which is an excellent preparation.

By the side of the alkaline medication, certain tonics and stomachics deserve a place, being much in repute. These are principally bitter preparations furnished by our indigenous flora, constituting antiarthritic remedies more or less complex, such as (to name those most known) the "electuary of Sydenham" which I have before mentioned, and the famous remedy of the "Duke of Portland." These nostrums, once the subject of much discussion, have now happily passed into oblivion, and given place to quassia and cinchona bark, which are of some little efficacy in atonic gout.

As you perceive, the pharmaceutical treatment of gout in the interval of the attacks is limited to the administration of alkalies in all their forms and bitters and other tonics. Add to these means the thermal treatment, which plays a considerable part in the therapeutics of this disease. Three stations among all those which have been considered as suitable for podagrous patients ought to attract your attention, viz., Vichy, in France; Wiesbad, in Germany; Carlsbad, in Bohemia.

There has been much discussion concerning the mode of action, the advantages and disadvantages, of Vichy water in gout. To-day this question seems to me decided, and I have already given expression to my views on this subject under the head of "renal lithiasis." It is not by neutralizing the excess of uric acid that these alkaline waters act, it is by their influence on the general nutrition, whose functions they regulate. But I am well aware that it will not do to exceed certain quantities, and that the treatment by alkaline mineral waters is not altogether unattended with evil. You should then send to Vichy your strong and plethoric patients whose nutritive functions are below par, and you should proscribe these waters to weakly patients whose attacks are but little accentuated—in a word, who have the symptoms of what has been described under the name of atonic gout and gouty cachexia.

The Carlsbad waters act like those of Vichy, always with this difference, that they are purgative. They suit admirably gouty patients with hepatic congestion and gastro-intestinal troubles, characterized by constipation or irritation of the stomach and bowels, provoked by excesses of the table. Wiesbad belongs to the sodic chloride waters, and is applicable rather to the arthritic diathesis than to gout itself. The Aix la Chapelle waters, as well as those of Ems and Royat, which are all sodic chloride waters, act also by the lithia which they contain, and combat rather the multiple manifestations of the arthritic diathesis than the excess of uric acid itself. These are very useful spas, to which you would do well to refer a large part of your chronic rheumatic patients.

Hygiene plays a considerable part in the prophylactic treatment of gout. Everybody is agreed that gout,

aside from the laws of heredity, is the consequence of defective hygienic conditions, the uric diathesis, which is its starting-point, being an evidence that the azotized materials introduced into the economy there undergo an incomplete combustion. We have, then, two great factors in the pathogeny of gout: too abundant alimentation, too little muscular exercise. Gout is a disease of the rich, and this is a fact on which have insisted all writers from the most remote antiquity. You should, then, have a care over the alimentation of your gouty patients and proportion it to their muscular work. You should look after not only their solid food but also their daily beverages, alcoholic excesses having an important influence in the etiology of gout. In fact for ages, attention has been called to the influence of spirituous liquors on the development of this disease. Wines that contain too much alcohol, as well as strong beers, should be interdicted altogether; although Garrod has condemned cider, I do not believe that this beverage can give rise to gout; I think there may be cases in which it may be beneficial.

But if the dietary of the gouty patient needs to be carefully regulated, it is just as necessary to prescribe suitable muscular exercise of all kinds; gymnastics, fencing, pedestrianism, all should be employed, and as our immortal fabulist has said:

Goutte bien tracassée,
Est, dit on à déum pansée.¹

ORIGINAL ARTICLES.

FURTHER EXPERIMENTS WITH THE MICROCOCCUS OF GONORRHOEAL PUS—"GONOCOCCUS" OF NEISSER.

BY GEORGE M. STERNBERG, M.D.,
MAJOR AND SURGEON, U. S. A.

In a paper published in *THE MEDICAL NEWS* in January, 1882 (Nos. 3 and 4, vol. xlii.), the writer gave an account of a series of experiments undertaken for the purpose of determining the etiological import of the micrococcus which his own observations, and those of numerous other observers, had demonstrated to be constantly present in the pus of specific urethritis. The uniform presence of this micrococcus in specific purulent discharges from the urethra or conjunctival sac is now well established, while the recorded observations indicate that it is not to be found in non-specific discharges from mucous surfaces. The presumption is, therefore, very strongly in favor of the view that the microorganism in question is connected with the infective virulence of these discharges, although, as repeatedly pointed out by the present writer, it does not possess distinctive morphological characters, as claimed by Neisser and others. Similar groups of micrococci have been observed by Ogsten in pus from acute abscesses, and I am informed by my friend, Dr. Wm. Councilman, of Baltimore, a very competent pathologist, who has given much attention to the study of microorganisms, that in post-mortem pustules upon his own hands he has repeatedly seen the pus cells

¹ Which may be thus rendered, "Gout well exercised is half cured."

invaded by micrococci, arranged in pairs and in groups of four, which appear to be identical morphologically with those found in gonorrhoeal pus. In my recent work,¹ in the article "Gonorrhoea," I give a photograph from nature² of micrococci, which, so far as I can see, resemble precisely the "gonococci" of Neisser, and which are from a culture inoculated with normal human saliva, which, as is well known, contains at all times a very varied microscopic flora.

I again call attention to this morphological resemblance, not with a view to claiming specific identity upon this ground, but in order to show that the claim which has been made that the "gonococcus" of Neisser may be distinguished from all other micrococci by its morphological characters is not well founded. I have repeatedly insisted upon the fact that these lowly plants often cannot be distinguished one from another by their form alone, and that specific differences may exist, as shown by a constant difference in color—as in the chromogenes, or in physiological reactions, as in the case of pathogenic micrococci, when the most skilful microscopist can distinguish no differences in form, dimensions, or mode of grouping, which would serve to distinguish one species from the other.

But it is not essential that the "gonococcus" of Neisser should be shown to possess distinguishing morphological characters in order to establish its claim to be considered the cause of the infective virulence of gonorrhoeal pus. If it can be shown that "pure cultures" of this micrococcus introduced into healthy urethrae produce a virulent inflammation identical with that which results from impure contact or from experimental inoculation with the discharges of specific urethritis, its etiological import will have been established. In this case morphological identity with species destitute of this special pathogenic power will simply be an interesting fact, and a well-defined specific distinction—physiological—will have been established.

The writer has no special predilection for the study of this disease, and if circumstances had made it possible for him to pursue his researches relating to the etiology of yellow fever and of malarial fevers, might never have found time to cultivate an acquaintance with the "gonococcus" of Neisser. The question, however, as to the relation of this micrococcus to the infective virulence of the fluid in which it is present has as important a bearing upon the truth of the germ theory of disease, as a broad generalization, as has that which relates to the etiological import of Koch's cholera bacillus, or of any other supposed pathogenic organism. For, as stated in my first paper, "It is evident that if a single infectious disease is shown to be independent of all microorganisms, the generalization will be impossible" (*i. e.*, that infectious diseases are parasitic-germ diseases), "and the etiology of each specific disease of this class must be worked out separately."

The uniform presence of the micrococcus in question in the pus of gonorrhoea, and the absence of any

other microorganism demonstrable by the highest powers of the microscope, led the writer, in advance of his inoculation-experiments, to anticipate with a great deal of confidence that these would give a positive result, and that the essential relation of this micrococcus to the infective virulence of the discharges of blennorrhagia would be established. If a specific urethritis had been induced in one or more of the hospital patients inoculated by Dr. Hirschfelder with pure cultures of the micrococcus which I placed in his hands (in June, 1882), the evidence would have been accepted by me as satisfactory, and the claim would have been made that the micrococcus in question is the essential etiological factor in the production of specific—infectious—urethral discharges. But having obtained a negative result in these, and in two subsequent inoculation-experiments, one of which was made in my own urethra, the conclusion was reached that infective virulence is not due to the presence of this micrococcus. Since these experiments were published, Bockhart has reported (September, 1882) a successful inoculation in the case of a paralytic patient in hospital, who is said to have had a typical gonorrhoea as a result of the introduction of the fourth culture of Neisser's "gonococci" into his urethra. This experiment has been accepted by several authors as sufficient to establish the essential etiological rôle of the micrococcus. The writer has given his reasons for not accepting this case as conclusive in his recent work already referred to (p. 311).

In my opinion the cultures should be carried further than the *fourth*, especially when made upon a solid substratum, in order to insure the exclusion of the original material, or of micrococci still infected with it. But even if this criticism were not well founded, it is evident that if the fourth culture produces a virulent inflammation and the tenth or twentieth culture is innocuous, we must admit that the pathogenic power of the micrococcus in the first instance does not depend upon constant and inherent physiological characters, but upon special conditions relating to its environment, or that of its immediate progenitors. In other words, that we have here an example of a microorganism which may acquire or lose specific pathogenic power, as a result of circumstances relating to its surroundings. The writer is very ready to admit this possibility, and to confess that he claimed too much for his negative results in inoculations with pure cultures, in his first paper, *viz.*, that infective virulence is not due to the presence of this microorganism.

The experiments of Bockhart and the recently published observations of Welander,¹ considered in connection with the evidence relating to other infectious diseases, make it appear extremely probable that infective virulence does depend upon the presence of this micrococcus, notwithstanding the fact that pure cultures have no effect when introduced into the urethra. It does not follow from our admission that the infectious properties of gonorrhoeal pus may depend upon the presence of this microorganism, that it has no other function than to produce a viru-

¹ Bacteria, Wm. Wood & Co.: New York, 1884.

² Fig. 1, Plate ix., of first edition; Fig. 6, Plate iv., of second edition, now in press.

¹ Nord. Med. Ark., Stockholm, 1884, xvi., No. 2.

lent discharge from the urethra, vagina, or conjunctival sac of infected individuals. There is another view which seems to the writer to be more in consonance with the observed facts, viz., that this micrococcus is a widely distributed and usually harmless organism which may acquire specific pathogenic power as a result of special conditions relating to its environment, and which again loses this power when removed from the influence of these special conditions.

That this specific pathogenic power is not a permanent physiological character of the species is shown by the negative results from inoculations with pure cultures reported by the writer in his first paper, and still more conclusively by the following recent experiments.

On the 14th of August a culture solution (beef-peptone solution) enclosed in a hermetically sealed glass flask, was, at my request, inoculated with a drop of gonorrhoeal pus from the urethra of a patient at the City Dispensary, by my friend, Dr. N. G. Keirle. Demonstrator of Pathology in the College of Physicians and Surgeons of this city.

The little flask with its sterilized contents was prepared as directed in my recent work (*Bacteria*, p. 177). It was at once placed in the culture-oven, kept constantly at a temperature of 38° C., and the following morning the fluid was pervaded throughout by a micrococcus identical in appearance with that which I have repeatedly obtained in the same way from the same source. A second tube was inoculated from the same case the following day, and the same micrococcus had full possession of the culture-medium after the tube had remained for twenty-four hours in the oven. From each of these tubes a series of cultures was made, and in each successive culture the same micrococcus, and no other microorganism, pervaded the culture-medium after twenty-four hours' incubation. Surface-cultures were also started from the pure stock in these culture-flasks. For these the Japanese isinglass—Agar-agar—and beef-peptone solution were used. Upon the surface of this medium the micrococcus extended slowly from the inoculated point, forming a circular white patch, which at the end of two or three days attained a diameter of about one-half an inch. In these surface-cultures the growth of the micrococcus was quite sluggish as compared with the fluid cultures, and came to a standstill when the culture was removed from the oven and allowed to stand under a bell-glass in the laboratory for a week or more. These cultures were made with a view to making a final and decisive test as to the pathogenic power of this micrococcus; and my friend Dr. Keirle had informed me that several gentlemen connected with the City Dispensary had consented to furnish healthy urethras for the experiment.

Accordingly I proceeded to the City Dispensary on Saturday, August 23, at an hour agreed upon, taking with me the 9th fluid culture, and surface-culture No. 9, both fresh from the oven and containing the micrococcus in active multiplication—the direct progeny of the "gonococci" in the drop of pus used nine days previously to inoculate culture No. 1. I was disappointed to find that the courage

of some of the gentlemen who had consented to the experiment at first had failed them at the last moment. I had informed Dr. Keirle that I thought it best to make the experiment upon unmarried men to prevent the possibility of serious secondary consequences in case of a result different from that obtained in my San Francisco experiments. But the unmarried men failed me at the last moment with the exception of one young gentleman, Mr. W. A. Wegefarrh, of Baltimore, a medical student. Contrary to my expectation, Dr. Keirle himself had determined to test the "gonococcus" in his own urethra, and with this example before me I could not do less than join in the experiment, although I confess that I did so with some hesitation, notwithstanding the negative results which I had previously obtained in a similar experiment.

Having determined to carry out the experiment, both Dr. Keirle and myself decided that it should be thoroughly well done. Three little cylinders of cotton were saturated with the fluid culture and one of these was introduced well into the urethra of each of the subjects of the experiment: Mr. Wegefarrh and myself left these pledgets of cotton *in situ* for more than two hours. But as the surface-culture had not been used, Dr. Keirle at the end of twenty minutes removed the first pledget and introduced a second which had been thoroughly smeared with the surface-culture. This was left in position for more than two hours, and both Dr. Keirle and myself refrained from passing urine for several hours, in order to give the "gonococci" a fair chance to effect a lodgement.

On the 27th of August, having experienced no effect from the first experiment, I introduced surface-culture No. 11 into my urethra in the same way, leaving the pledget of cotton in position fully two hours. The result was entirely negative, and the other gentlemen assure me that they experienced no ill-effect whatever from the experiment. On the 29th of August I made a microscopical examination of the organisms present at the extremity of my urethra, and found groups of micrococci attached to some of the epithelium cells which resembled precisely those in my culture solutions. These micrococci were less numerous, however, than the bacteria (*B. termo*?) which habitually infest the meatus urinarius, and which may be seen in the photo-micrograph illustrating my paper on "Bacteria in Healthy Individuals."¹

Those who desire to study for themselves the bacterial flora of this and other mucous surfaces, will find it a very simple matter if they adopt the following method:

A clean glass cover is gently applied to the mucous membrane of the meatus, and the stain of mucus upon it is allowed to dry without heat. A drop of a watery solution of one of the aniline dyes is then placed upon the cover, and after two or three minutes this is washed off in a gentle stream of water. The cover is then mounted over a circle of white zinc cement, or in balsam. Upon microscopical exam-

¹ Studies from the Biological Lab. Johns Hopkins Univ. Vol. ii., Plate xlii., Fig. 4.

ination numerous epithelium cells will be seen with their nuclei deeply stained, and with a power of 500 diameters it will be seen that many of them are invaded by innumerable microorganisms, some of which are spherical and others oval or rod-shaped.

It would be well for every surgeon to make this demonstration for himself. For having done so, he can scarcely fail to ask himself the question, Are these septic organisms? And if so, is there not danger that in introducing sounds, etc., I may carry these living ferments into the bladder, and may they not in that case induce injurious fermentative changes in the contents of this viscus? Or in dilating a stricture, is there not danger that I may rupture the mucous membrane and introduce into this open wound septic organisms carried upon the point of my sound from the extremity of the urethra? And is it not possible that the serious results which sometimes follow simple operations upon the urethra are due to such accidental inoculation during surgical manipulations?

POSTSCRIPT.—Since writing the above, I have had an opportunity of verifying the fact that micrococci are sometimes found in the pus of acute abscesses which are morphologically identical with those found in gonorrhoeal pus. On the 16th of the present month a recruit at the cavalry recruiting rendezvous in this city came to me with a painful swelling over the instep which had developed within two or three days. Upon pressure I discovered fluctuation, and determined to take advantage of the opportunity to start a fresh culture of the micrococcus which the testimony of Ogsten and others shows is quite uniformly found in pus from an acute abscess.

The surface was made as clean as possible before making an incision by thoroughly washing it with strong alcohol. The pus which escaped after making the incision was quite thick and amounted to about half a fluid-drachm. A little of this was drawn into each of three culture-flasks at the moment of its escape from the wound—the flasks were of the pattern which I habitually use and have repeatedly described—and a small quantity was collected in a capillary tube for microscopic examination. This was spread upon thin glass covers and stained with methyl-violet. It was found to contain micrococci in pairs and in groups of four, but no chains were seen. The micrococci were not numerous, but under the $\frac{1}{8}$ -inch objective of Zeiss they were unmistakable, and several characteristic groups of four, arranged in the form of a square, were seen. They were also seen in the interior of a pus cell, an observation which was verified by Dr. Councilman.

The culture-flasks were placed in the oven (kept constantly at 38° C.) and the following morning the culture-medium (beef-peptone solution) was, in each case, pervaded by micrococci, arranged in pairs, in groups of four, in short chains of three or four, and in irregular groups and masses. No other micro-organism was present in the culture-solutions.

So far as the form and grouping of these micrococci are concerned, they do not differ in any respect from the micrococci which I have repeatedly obtained by inoculating culture-fluids in the same way with a little gonorrhoeal pus at the moment of its

escape from the meatus urinarius. A comparison was made with an amplification of 2000 diameters (Zeiss's $\frac{1}{8}$ -inch objective and high eye-piece), pure cultures from each source being used for this purpose. A slight difference in size was perceptible with this high power, the micrococcus from the acute abscess being a little larger than the other. I do not, however, attach importance to this slight difference in size as a specific distinction, for the individual cocci in the same culture vary considerably in their dimensions, and I have repeatedly noticed that different cultures from the same source may vary somewhat in this particular. These unicellular plants do not differ in this respect from plants higher in the scale. My observations lead me to think that they are subject to the modifying influence of changes in their environment as well as the higher plants, which we know may be dwarfed by deficient nutriment, or may acquire an unusual development as a result of artificial selection and cultivation. And I believe that the laws of heredity in conjunction with the various modifying influences to which these minute plants are subject in different situations must tend to the establishment of varieties and finally of species. But I do not find that the "gonococcus" of Neisser possesses any morphological peculiarities by which it can be distinguished from micrococci from other sources.

CASE OF HÆMATURIA OCCURRING IN THE COURSE OF TYPHOID FEVER.

By HENRY M. FISHER M.D.,

PHYSICIAN TO THE EPISCOPAL HOSPITAL, PHILADELPHIA.

F. M., male, æt 28, single, born in Philadelphia, was admitted to the Episcopal Hospital June 28, 1884. About five weeks before admission, patient slept out of doors all night; three weeks later had chills for two or three successive days, accompanied by severe headache. Since then he has been the greater part of the time on his back, and for nearly a week has had complete prostration of strength. Diarrhoea has, from the first, been a prominent symptom.

July 2.—His bladder was found to be much distended, reaching to within an inch and a half of the umbilicus. For the last 36 hours it was observed that he passed water only in dribbles. He was catheterized and 59 ounces of turbid, high-colored urine were withdrawn.

11th.—Patient succeeded to-day in emptying his bladder without assistance. Temperature has at no time been very high, but his pulse has been uniformly weak. The urine voided was of a dusky-red color, highly albuminous, and evidently contained much blood. A microscopical examination was, however, unfortunately not made. For three days past there has been extreme tenderness over the abdomen, with much tympanitic distention. Ordered pil. opii, gr. j every hour, and poultices. Diarrhoea persists. In addition to the opium by the mouth he was ordered tr. opii, gtt. xl, in starch-water as an enema three or four times a day. Dulness on percussion, and subcrepitant râles, were noticed over the base of the right lung.

13th.—Urine still bloody. Ordered acid. tannic. grs. v every two hours, to be increased to grs. x if no vomiting is thereby induced. Pulse 112, and thready. Tongue very dry and fissured, and extruded with difficulty. Tympanites and bloody urine persist.

14th.—Urine somewhat less bloody and tympanites less marked. Is delirious. Much emaciation noticed.

15th.—Vomiting began this morning and would not yield to any of the remedies that were administered. Patient died at 11 P. M. No autopsy was permitted.

Though there is still an element of uncertainty about the diagnosis in this case, which only the autopsy could have positively removed, I think, from a careful survey of all the symptoms, that there is little question that we had here to deal with a case of acute nephritis, occurring in the course of typhoid fever. The course of the case bears a very strong resemblance to that of a case reported by E. H. Greenhow, in the *Transactions of the Clinical Society of London*, 1880, xiii. The urine not having been examined for albumen until its appearance (smoky hue, etc.) suggested the probability of its containing a large amount of albumen, it is impossible to tell exactly when the nephritis was first developed. Very probably, however, it became developed before the end of the third week, for, as has been seen, it was observed that the patient had difficulty of micturition only two or three days after his admission to the hospital.

The vomiting that occurred just before his death may have been of uræmic origin, or it may have been secondary to the very marked peritoneal irritation from which he was evidently suffering.

Though renal congestion is of common occurrence in the course of typhoid, as in the course of any other disease attended with great heat of skin, true acute nephritis (which this seems to have been) has, I think, not been very frequently observed. I have not as yet been able to find notices of more than five or six cases of typhoid fever in which acute nephritis occurred during the height of the disease as a complication of it.

DEATH FROM A PESSARY.

By HOWARD A. KELLY, M.D.,
OF PHILADELPHIA.

E. S., a wizened, decrepit, little German woman, seventy-five years old, called on me during the latter part of March, making some unintelligible complaint about her uterus. Placing her on her back and separating her knees the shrunken parts of an old woman were visible, and oozing out from between the labia was seen an intensely fetid yellowish discharge. She broke wind freely per vaginam at the moment of examination, leading me to infer the probability of a recto-vaginal fistule.

Digital exploration revealed a hard crusty mass greatly dilating and filling the whole vaginal canal. It was easily indented by the finger, and felt like a large scybalous mass. Every movement caused fresh discharge to flow, the odor of which was so foul as to compel the gentlemen with me to leave the room.

The mass proved to be a ring pessary made of

polished, painted leather, stuffed with oakum. It measured eleven and a quarter inches in circumference, and had a lumen of five-eighths of an inch, the circumference of the sides of the ring being four and a half inches, and the diameter one and three-eighths inches. Considering the size, it was comparatively light, a new one in my possession weighing but two and a half ounces.

She had worn this pessary *continuously* for fourteen years, never once having removed it since its insertion by a German midwife in Strasbourg, for "falling of the womb." She had felt no discomfort of any kind until recently, when difficulty of defecation, dysuria, and the odor, intolerable to the members of the family, drove her to seek advice.

The ostium vaginae was so much smaller than the pessary that my most vigorous efforts with the unaided hands could do little more than induce it to present at the opening. By hooking a No. 25 steel sound through the hole in the centre and catching the index finger of the left hand under the point of this, completing a loop, I was able to make strong steady traction, with the axis of the pessary in that of the canal, and thus in a few minutes to remove it, with a slight laceration of the perineum. The pessary was coated and its lumen choked with a thick, yellow, putty-like mass of inspissated vaginal secretion.

The only trace of its presence left in the vagina, besides the patulous canal, was a zone of ulceration an inch broad, below, and circling round the diminutive cervix. This zone was yellow and flat, and there were no granulations, such as I have invariably seen embedding the narrow, hard-rubber pessaries when worn for several years without removal.

She was directed to keep plugs of cotton smeared over with ointment in the vagina, and to remove these frequently, and to syringe herself with a strong solution of permanganate of potash.

She returned in a few days complaining of a severe diarrhoea and anorexia; a week later the elevated temperature, quick pulse, and dry brown tongue showed the beginning of the typhoid state, in which she died, about three weeks after I first saw her.

2517 NORTH FRONT STREET.

HOSPITAL NOTES.

MEDICO-CHIRURGICAL COLLEGE CLINIC.

Service of PROF. T. E. GARRETSON.

EXCISION OF INFERIOR MAXILLARY NERVE FOR NEURALGIA.

THE first patient had undergone many operations, and Dr. Garretson frankly confessed his utter inability to determine the location of the lesion that caused the pain. The use of the voltaic pile bound over the parts at night afforded relief for months. Bland's pills of the iron sulphate and potassium carbonate, fifteen grains of each daily, were used, but have proved of little avail, although persevered in for several months; as had likewise been done with Duquesnel's aconitia in doses of $\frac{3}{100}$ th grain every two hours until numbness is felt. A like result followed the use of Brown-Séquard's pills,

as also the following local application, recommended by Dr. J. L. Ludlow:

R.—Atropiæ sulphatis,	. . .	gr. ss.
Aconitiæ,	. . .	gr. jss.
Oleii tigllii,	. . .	gtt. ij.
Ung. petrolii,	. . .	3ij.

Finally he was treated tentatively, with every medicine in which lay hope of doing good, but without effecting a cure, and all that could now be done was to relieve the pain by hypodermic injections.

Other obscure cases were shown to illustrate how, under distressing circumstances, it becomes necessary for the surgeon to attempt operation after operation, with the hope of eventually removing the affected portion of the nerve. Among these a robust mulatto was a victim of sciatica, the result of rheumatism. Eight drops of chloroform were injected into the deep tissues of the muscles at the ilio-femoral crease, the lecturer giving it as his experience, that while this drug is curative as regards the sciatic region, it is exactly the converse when used about the face. The patient, when asked if he suffered from a sensation of burning pain that might be expected from the use of this remedy, replied "not particularly." Before the clinic was over, he expressed himself as experiencing relief from the injection.

The next patient was a delicate woman who had long suffered from neuralgia in the region to which the temporal branches of the auriculo-temporal nerve are distributed. There was also marked vascular disturbance in this locality.

Having determined to ligate the temporal artery and excise the temporal branch of the auriculo-temporal nerve, Dr. Garretson made a vertical incision in front of the ear down to the level of the zygoma. Stress was laid on passing the grooved director under the tissues before cutting, and feeling that portion held up by it for indications of pulsation before cutting, so as to preclude the possibility of wounding the vessel. The artery being found and ligated first, the nerve was next exposed, isolated from the surrounding tissue and about an inch of it was resected.

The next was a case of excision of the inferior maxillary nerve and its mylo-hyoid branch at the point of exit from the cranium by the foramen ovale. The patient was a great sufferer from persistent neuralgia related with the inferior maxillary nerve and its mylo-hyoid branch. He could neither talk nor eat with comfort, and his life was made altogether miserable.

The patient was etherized, then an incision was made which began an inch above the angle of the jaw and was carried downwards and forwards to the length of an inch in front of it, this cut being in the shade line below the bone, to avoid injury to important parts covered; the integument was pulled upwards upon the jaw and then incised. Ligation of the facial artery is commonly made necessary as a result of this first step, and it was required in the present instance.

By stretching the wound with retractors the bone was exposed and a small surface denuded of its periosteum, through which part an opening into the inferior dental canal was quickly effected by the bur of the surgical engine. The nerve was then raised from the canal

and severed, the central end being left in the grasp of bulldog forceps. Using the nerve as a guide, the engine bur was carried to the posterior dental foramen, which, like the canal, was enlarged to admit of the passage of a fenestrated instrument through the ramus of the inferior maxilla to the base of the cranium. The hemorrhage was controlled by the ligation of the inferior dental artery, and the use of tannic acid applied in powder to the vascular surfaces of the wound; after which the nerve was severed and the removed portion exhibited to the class. Dr. Garretson spoke of the danger of using a sharp knife in the parts so near the internal maxillary artery without the edge being guarded, and recommended a delicate guillotine, somewhat upon the plan of a tonsillitome.

MEDICAL PROGRESS.

THE BACILLUS OF CHOLERA NOSTRAS.—PROFESSOR FINKLER, of Bonn, read a paper on this subject before the Society of German Naturalists and Physicians, at its recent meeting in Magdeburg.

The first part of his paper was a recapitulation of the paper, by himself and Professor Prior, which appeared in the *Deutsche medicinische Wochenschrift*, of September 4, a translation of which is to be found in THE MEDICAL NEWS, of September 27, 1884.

In their researches on cholera nostras they have found a bacillus which is precisely similar to that described by Koch as occurring in cases of Asiatic cholera. The period, in cholera nostras, during which nothing but comma-bacilli are found in the cultures, is very short; it is between 24 and 48 hours after the commencement of the culture process that a pure culture is found. The culture materials were the same as those employed by Koch; linen, alkaline pieces of meat, milk, potatoes, and gelatine. The same coloring materials were also used.

Koch has already mentioned the presence of certain spirilli among the bacilli; these were also found among the bacilli of cholera nostras. There were also other spirilli which occurred as long thick threads, and seemed to stand in a certain relation to the bacilli. At a certain period they were very numerous in the cultures, formed a club-shaped swelling, and from the swelling small comma-bacilli fell out in great numbers. At a later period nothing more was seen of the club-shaped growths. One may also see something like single comma-bacilli attached to these spirilli. Then, too, there are forms similar to the spores of the erysipelas-cocci.

To draw a conclusion from his researches, Professor Finkler says, that he believes the bacilli found by Koch and those now described by himself are identical. The diagnostic value of the cholera bacillus will be almost destroyed if it can be shown that it is also found in cases of cholera nostras when there is no Asiatic cholera in the vicinity. [He has stated in the first paper that he believes the cases at Bonn to have been cholera nostras.] Is there then a pathological difference between severe cases of cholera nostras and mild cases of Asiatic cholera? He believes that the principal difference between the two diseases is, perhaps, to be sought in other things than in the existence of different bacilli.—*Wiener med. Presse*, September 28, 1884.

PROFESSOR KOBNER asked whether the considerable difference in size between the bacilli found at Bonn, and those seen in Koch's preparations, especially the difference in thickness, was due to the different microscopic power used, or really existed. He had seen such a difference in size several years ago, in examining the bacilli of leprosy.

PROFESSOR FINKLER said that both of the factors mentioned by Professor Köbner were instrumental in showing a difference in the size; and that there is in every culture a great difference in the size of the individual bacilli, as both large and small ones are seen in Koch's preparations. Replying to a question by Dr. Immermann, he said that he had studied the capacity of the bacilli for resisting different chemical substances, and their behavior on different culture-materials. The unfavorable action of acid was clearly seen. As to the microscopic nature of the cultures, he could only confirm what had already been said by Koch. His own cultures were similar to those described by Koch. —*Deutsche med. Wochenschr.*, September 25, 1884.

THE INOCULATION OF THE CHOLERA BACILLUS.—The *Deutsche medicinische Wochenschrift*, of September 25, publishes the following letter from DRs. NICATI and RIETSCH, of the laboratory of the Pharo Hospital at Marseilles, to the *Semaine Médicale*:

If one inject into the duodenum of a dog, after ligation of the ductus choledochus, some of the contents of the intestine of a person who has died of cholera, or a part of a pure culture of comma-bacilli, the animal will die in one or two days, and his intestinal tract will be found to contain a milky, pap-looking substance very rich in epithelium; just as much so as in the case of a person who has died from an attack of only a few hours' duration. In this substance the bacilli increase as rapidly as in a case of cholera, if the air be moist and the temperature suitable.

In experimenting upon guinea-pigs these changes can be obtained by making the injections into the duodenum alone, and without ligating the common duct; and they may be produced by injection into the stomach with a tube, provided a considerable quantity of the material be used. The symptoms observed in these animals during life are: diarrhoea, vomiting (in the case of dogs only), and cyanosis, with fall of temperature; in one case a rise of temperature was observed, in a dog, after death. On examination of the blood of these animals, nothing more was found than is seen in the algid stage of cholera; such as crenation of the red blood-discs.

From their results they conclude that, if further inoculation of the comma-bacillus is to be obtained, it will only be possible by elimination of the digestive fluids; and their first care was, after they had mastered the methods for cultivating the bacilli, to study the different digestive fluids. The gastric juice destroys the bacilli very energetically, as Koch has shown. The pancreatic juice has no action on them; nor does the bile appear to have a greater influence, as was seen with bouillon mixtures: though it seems as though under other circumstances it would have some effect. In the examinations of the stools, in which the bacilli were found in great abundance, they proved by the nitric acid test that no bile was present. In rapid cases

of cholera they found the pathological changes reaching up to the pylorus; in fact, the maximum of intensity of the diseased process was found in the upper part of the intestine. The duodenum was as much injected as the ileum, and just as full of the pap-like material. But there was no trace of biliary coloring matter, and even the mouth of the bile-duct was filled with it.

These facts seemed to show that the duodenum is the proper place for the inoculations. The experiments (more than twenty) are by no means concluded. They point out one source of error; there exists in the discharges of men and animals, especially in those of swine, a crooked bacillus, also found in the air, which may be easily mistaken for the cholera bacillus. The colonies are transparent, as are those of the comma-bacilli, and the chief point of difference lies in the rough contour; the colonies of the comma-bacilli have fine granular borders, those of the other bacilli have rough borders. The latter bacilli are also much larger, less curved, and often seem as though broken in the middle by segmentation; furthermore, they do not multiply on moist linen.

NEPHRECTOMY FOR CALCULOUS PYELITIS.—PROFESSOR E. BOTTINI reports the case of a man, twenty-seven years of age, from whom he removed a kidney on account of calculous pyelitis. When twelve years old he had had a vesical calculus removed by the lateral operation. At fifteen he had an abscess in the right iliac fossa, which opened spontaneously; but another appeared in the right lumbar region within a few months, and was opened with caustic potash. From this time he had a fistulous opening in the lumbar region, and when seen by Professor Bottini, the diagnosis, calculous pyelitis with lumbar fistula, was easily made.

The operation was performed by the lumbar incision, under antiseptic precautions. After removing the kidney the fistula was attacked, and closed with metallic sutures. The patient was out of bed on the sixth day, and left the hospital on the twenty-fourth. The removed kidney weighed oz. jss, was $2\frac{3}{4}$ inches long, $1\frac{1}{2}$ wide, and $\frac{1}{4}$ inch thick.—*Gazz. degli Ospitali*, Aug. 31, 1884.

OXIDE OF ZINC IN VENEREAL WOUNDS.—DR. J. GLASUNOV reports (*Vratch*, No. 22, 1884) that in cases of soft chancre he has observed rapid clearing up and healing under the use of powdered oxide of zinc; even in cases in which almost the entire venereal armamentarium had been exhausted, without the slightest improvement. It is especially useful when the chancroids are situated in the folds of the nymphae and labia. After the wound has been cleansed with carbolic acid solution it is dusted over, twice daily, with powdered oxide of zinc, and is then covered with wadding or cotton.—*Centralbl. für Chirurgie*, Sept. 13, 1884.

ERGOTINE IN DELIRIUM TREMENS.—DR. ARNOLDOFF reports (*Vratch*, No. 37, 1884) that ergotine is a most excellent remedy in cases of acute alcoholism, and refers to seven cases in which the insomnia of alcoholism was completely relieved by gr. xv-xx. In cases of chronic alcoholism bromide of potassium should be given with the ergotine. Severe cases of insomnia, hallucinations, etc., will generally yield after about 3j of ergotine has been given.—*Gazzetta degli Ospitali*, Sept. 14, 1884.

THE MEDICAL NEWS.

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SATURDAY, OCTOBER 18, 1884.

LAPAROTOMY FOR PERFORATIONS OF THE INTESTINES AND STOMACH.

DURING the past year several cases have been recorded which demonstrate that the expectant treatment of traumatic and pathological perforations of the intestinal tract should be abandoned, and that exploratory laparotomy should be resorted to for the objects, first, of arresting hemorrhage; secondly, of sewing up the injured part, after a preliminary excision, if the injury be extensive, through which, if it has not already occurred, fecal effusion will be prevented; and, thirdly, of cleansing the peritoneal cavity of extravasated fluids.

At the recent meeting of the American Medical Association, two papers on wounds of the intestines, from the pens, respectively, of the late PROFESSOR GROSS and PROFESSOR PARKES, of Chicago, were read, in which the imperative necessity for laparotomy in these injuries was fully recognized. In addition to these papers, PROFESSOR KOCHER, of Berne, has recorded, in the *Korrespondenzblatt für Schweizer Aerzte*, December 15, 1883, a recovery after abdominal incision for gunshot wound of the stomach; and PROFESSOR MIKULICZ, of Krakow, reported at the *Versammlung der Deutscher Naturforscher und Aerzte in Magdeburg*, September, 1884, a successful laparotomy for perforative peritonitis. These cases afford conclusive evidence of the importance of suture in perforative lesions of the stomach and intestines, whether they are induced by wounds or morbid processes, and one of them shows, moreover, that exudative peritonitis is not a contraindication, provided the patient's powers are not exhausted.

Three hours after a pistol-shot wound in the

region of the stomach, in a boy fourteen years of age, pallor, swollen and painful abdomen, hiccough, vomiting, and symptoms of collapse induced Kocher to open the belly, when a large quantity of dark venous blood escaped. The wound, which was situated on the anterior surface of the stomach, toward the greater curvature, was circular, and about half an inch in diameter. The edges were brought together with two catgut sutures, and the serous coat was inverted around the wound by a continuous silk suture. The boy made a good recovery, but it was retarded by an abscess which formed in the track of the threads.

The case of Mikulicz was that of a man, fifty years of age, who experienced a sudden, sharp pain on jumping from his bed. Symptoms of ileus supervened in two hours, and steadily increased in severity for two days, when they were followed, at the end of another day, by signs of peritonitis. On incising the linea alba, more than a quart of thin, offensive pus escaped, and bits of undigested potato were found in the peritoneal cavity, into which they had made their way through a perforation in the ileum, one-fourth of an inch long by one-sixth of an inch wide. As the glands of the mesentery were enlarged, and as there was no other clue to the production of the opening, Mikulicz thought that it was probably an example of perforating ulcer in a walking case of typhoid. The edges of the ulcers having been excised, they were brought together by twelve points of suture, the peritoneal cavity was carefully cleansed, a drainage-tube inserted, and the abdominal wound closed. The symptoms of peritonitis gradually disappeared, and the man was soon able to attend to his affairs.

In addition to these cases, reference may be made to a brief notice in the *Correspondenzblatt*, No. 16, 1884, of a laparotomy for peritonitis resulting from perforation of the vermiform appendix, with resection of the latter, by Krönlein, of Zurich. The result is not given, but it serves to illustrate what should be an accepted principle of treatment.

In gunshot injuries of the intestines the wounds are usually multiple, Gross having met with not less than eight perforations, while, in his experiments upon dogs, Parkes found that solitary openings were the exception. It is for this reason, apart from the concomitant shock, that the prognosis of this class of injuries is far less favorable than that of the lesions described in the preceding paragraphs. If the shock be not excessive, the line of action, however, is perfectly clear. The wounds should be closed with sutures, or, if they are large, enterectomy and enterorrhaphy should be resorted to. When they are situated very near to each other, one operation of this kind will suffice, but if the openings are widely separated, several resections will be necessary. In the latter event, the outlook will not be promising.

We are not able to recall, at the present writing, any examples of enterectomy for gunshot injuries. Indeed, the only case that recurs to us in which a portion of the intestine required excision for a perforating lesion is one recorded by BOUILLY in the *Bulletins de la Société de Chirurgie*, t. ix., 1883. A man was kicked by a horse on the belly below the umbilicus. On the following day, signs of peritonitis being well marked, the abdomen was opened, and the intestine was found to be the seat of a large perforation, as well as of a brownish slough, which was on the point of separation. As the two lesions were close together, the affected portion of the gut was resected and the edges united with twenty-six points of Lembert's suture. At the end of forty-eight hours the symptoms of peritonitis had disappeared, but the abdominal wound opened on the third day and gave vent to fecal matter. The sterocorous fistule remained open, and the general condition of the patient was most excellent, when, as the result of a too hasty exploration of the abnormal opening, peritonitis again set in, and the man succumbed.

THE BACILLUS OF CHOLERA MORBUS AND OF CHOLERA.

At the recent Congress of German Physicians and Naturalists sitting at Magdeburg, FINKLER read a paper on the bacillus of cholera morbus and its culture. After numerous trials made in association with Prior, he seems to have been successful in cultivating a comma-bacillus, in no way distinguishable, either structurally or in behavior under culture, as to culture medium, time, or temperature required, from that of true cholera. So that other means of diagnosis must be found between the two forms of cholera. This, it would seem, is to be found in a sporule stage which has not yet been discovered for the true cholera bacillus, and that the bacillus of cholera nostras is developed from these spores. So far as the symptoms are concerned, it is well known that they are so strikingly similar that from them alone it is impossible to make a differential diagnosis. It is rather the shortness of duration and the favorable termination which distinguish the milder from the more fatal malady.

In contrast to the above are the results of some inoculation-experiments recently practised at the Pharo Hospital at Marseilles by NICATI and RIETSCH, in which the injection of some of the duodenal contents of cholera patients, or of cultures of the comma-bacillus, into the duodenum of a dog whose common bile-duct was tied, was followed by death in a few days, and the intestinal tract was found filled with a milky pulp very rich in epithelia. In this the comma-bacillus grew abundantly. The same thing occurred with guinea-pigs, in which the common bile-duct was not tied; also when the infectious

material was introduced into the stomach in very large quantities.

The symptoms during life were diarrhoea and vomiting, in the case of dogs, and cyanosis with lowering of temperature, and, in one case—that of a dog—a rise of temperature after death. Minute study of the blood showed, in the algid stage, a disposition to crenation in the red blood-corpuscles, and a flattening of the same—a condition observed in connection with the asphyxia resulting from mechanical obstruction of the air-passages.

These are results one would expect from the clinical history of cholera, in which it is ascertained that it is those persons with defective digestion who are liable to the disease. Yet, in order to test this, the action of various digestive fluids upon the cholera-bacillus was tried. It was found that the gastric juice exerted energetic solvent action upon the comma-bacillus, the pancreatic juice was without effect, while the bile exerted but a feeble influence upon the organism when contained in bouillon. Other facts, however, went to show that bile does exert a decided action upon the living bacillus. It was ascertained that stools which were richest in bacilli contained not a trace of bile; also that, while the pathological processes extended as far up as the pylorus, and that the duodenum was as much injected as the ileum, and was filled with the characteristic milky fluid, there was no trace of bile, and the common bile-duct was obstructed by the milky fluid. Everything in the experiments which were made pointed to the duodenum as the seat of infection.

The experimenters also call attention to a curved bacillus found in the evacuations of man and animals, and especially of pigs, which is to be found in the atmosphere, and is easily confounded with the comma-bacillus. Its colonies are likewise transparent, refracting light but slightly, but differ from those of the comma-bacillus in the more nodular appearance of their contours, those of the comma-bacillus being more finely granulated. Each bacillus, too, is larger, less curved, and appears often as if broken in the middle by fission.

Thus, it will be seen that our knowledge of this important organism is gradually extending, and there can be little doubt but the investigations now proceeding in favorable fields in Europe and in India will result in the evolution of knowledge, which, although it may be subject to change, must still have the effect of making cholera a less dreaded scourge in the future than it has been in the past.

DEATH FROM A PESSARY.

STRANGE objects have been introduced into the vagina, such as a snuff-box, hairpin—several instances of this are on record—the bobbin of a spin-

ning-wheel, spools, the stalk of a candlestick, the bowl of a pipe, pepper-box, pomade-pot, a wine-glass, a cone from a pine tree, a coffee-cup, a doll-baby's head and chest. A purse of money has been hidden in the vagina, and it has been strongly suspected, but we do not know that it has ever been proved, that female smugglers make this cavity a temporary receptacle for diamonds, and that many thousand dollars' worth of these precious stones have been thus brought into this country without any duty being paid on them. A few years ago some twenty-five thousand dollars' worth of diamonds appeared in the New York market, upon which no duty had been paid, and the only explanation given of the diamonds escaping the rigid search of the custom-house officers was that just mentioned. In consequence of this, one of the female inspectors of the Custom House applied to a distinguished New York physician to know whether such a mode of concealment was possible, and whether she would be justified in making vaginal examinations in women suspected of such smuggling.

Probably, however, if all the cases of introduction of foreign bodies into the vagina, from thoughtlessness, for the gratification of passion, for the accomplishment of a criminal purpose, or from abominable and cruel wickedness, were collected, the mischief that they caused would not be a tithe of that which has resulted from pessaries, when these, no longer fulfilling any useful purpose, have become positively injurious. A "Babcock's pessary" has found its way into the uterus. The late Dr. Crowe, of Louisville, Ky., reported an instance of this. Other examples have occurred in which the pessary has caused ulceration of the anterior as well as of the posterior vaginal wall, and thus while a part of the instrument remained in the vagina, yet another was in the bladder, and a third was in the rectum.

M. LEONARD reports, in the *Progrès Medical*, September 18, 1884, the case of a woman, fifty-four years old, who had worn for two years, without removal, a very large pessary, and whose death was attributed to the instrument. The patient had cystitis, albuminuria, and very obstinate constipation. The pessary, which was between one and two inches in thickness, and three and a third in diameter, was removed with very great difficulty and its withdrawal was followed by the discharge of an infectious mucopurulent fluid. The reporter thus explained the pathogeny of the case. The infectious mucopurulent products which flowed from the vagina had been absorbed by the veins or lymphatics at the ulcerated part of the vagina, and produced the acute renal congestion shown at the autopsy. DR. KELLY records in our present issue an interesting case of death caused by a pessary; the history being in some respects similar to that of the case of M. Leonard.

We may add that Rokitsansky (*Wien. med. Presse*, 1877, p. 655) has reported a case in which a woman had worn a Hodge pessary more than four inches in length and nearly three in its greatest width, for nine years; it had become in great part embedded in the vaginal walls, but it was removed by him, and no serious consequences followed.

VENEREAL ORGASM IN WOMAN IN PROGRESSIVE LOCOMOTOR ATAXIA.

DR. A. PITRÈS, Professor of the Bordeaux Medical Faculty, narrates in the *Progrès Medical* three cases in which "clitoridian crises" were observed at the beginning, or in the course of, progressive locomotor ataxia. All three of the subjects were between forty and fifty years of age, and in all the spontaneous voluptuous sensations were observed some time before the characteristic symptoms of the disease were manifested. In one of them the interval was four years. She was living with her husband, and conjugal pleasures were moderately indulged in; yet suddenly, without any lustful thought, or artificial excitement, a sort of tingling was felt in the vagina, then the clitoris was affected by the sensation, and its erection occurred, and very soon followed an undoubted erotic spasm with ejaculation, as in normal coitus. These spontaneous voluptuous crises were almost always repeated three or four times in the same day, and then were absent for one or two weeks. In a second patient the voluptuous crises were present for a year, and in the third ten years before the characteristic symptoms of the disease manifested themselves.

From his observations of these cases Dr. Pitrès concludes that the presence of clitoridian crises ought to lead to the suspicion of *tabes dorsalis*, even when every other symptom of the affection is absent; and that when these crises coexist with even one of the ordinary symptoms, the disease may be diagnosticated in the absence even of all actual disorder in the coördination of movements.

DO NOT TURN OUT THAT CLOT.

ALL who ever heard the late Professor Charles D. Meigs lecture upon post-partum hemorrhage cannot forget the earnest force with which he exclaimed, "Turn out that clot!" But absolute rules in medicine are few, and this one, it appears, has its exceptions. DR. JAMES F. HIBBERD recently read a paper before the State Medical Society of Indiana, narrating a case of post-partum hemorrhage, in the treatment of which a practice directly the opposite of that counselled by Dr. Meigs was successfully pursued.

Dr. Hibberd's case was briefly as follows: The patient, a secundipara, fifteen minutes after the birth of her child, had hemorrhage, the placenta being in large part adherent, as ascertained upon the introduc-

tion of the hand into the uterus, and it was with great difficulty detached. Immediately after the removal of the placenta, firm contraction of the uterus was secured by external manipulation, the patient's head having been previously put on the same plane as the body; a full dose of fluid extract of ergot, a medium dose of morphia, and a small quantity of alcohol were given; one hand was placed upon the uterus, and the fingers of the other upon the pulse. In a little while the patient fainted; but, though none of the usual efforts at restoration were made, in fact nothing was done, she soon rallied. She again fainted, and again spontaneous revival occurred, followed by perfect restoration and rapid convalescence. Dr. Hibberd remarks: "In my puerpera I looked for syncope, and desired it for remedial purposes. When satisfied that I had removed the last vestige of the placenta, I was apprehensive that the violence of the manipulation its removal had necessitated had abraded some part of the surface of the womb and left an oozing of blood or broken a vessel that the contraction of the uterus did not close, and it was my hope and belief that syncope would favor the formation of a clot that the reestablishment of the circulation would not remove." The second swoon, though not anticipated, was not alarming, for the hand upon the uterus showed that there was no new hemorrhage. He believes that if he had removed the clot, and endeavored to secure a better contraction of the uterus by manipulation, by ice or styptics, his patient would have died.

And now we wish to put by the side of this case one narrated by LUMPE in a recent number of the *Archiv für Gynäkologie*. The two tend to prove that the rule of turning out the clot is not always absolute. Lumpe's case was as follows: "A primipara, forty years old, had premature rupture of the bag of waters. The os was rigid, resisting, badly dilating; the first pains were weak; the face presented, abnormal rotation occurred, and labor had finally to be ended by the forceps, the cervix being badly torn in the delivery. After the delivery of the child the uterus did not contract at all, but remained relaxed like a leather bag, and its contour could not be felt through the abdominal walls. The placenta was detached, but still there was no contraction of the uterus; yet the bleeding was not excessive. More blood was discharged than usual, but gradually the flow ceased, and I felt in the cervix coagula. I believe it would have been most improper for me to have removed the blood coagula from the uterus and the vagina, for only the exceptional coagulability of the blood saved the woman from flooding."

THE fifth volume of the Index Catalogue of the Library of the Surgeon-General's Office has just

been received. Like its predecessors, it has been prepared under the supervision of Dr. Billings, and extends from *Flaccus* to *Hearth*. It covers 1055 double-column, closely printed quarto pages, and includes 15,555 author titles and 42,196 subject titles. The magnitude and value of the volume may be judged by the fact that the references to *fœtus*, for instance, cover 21 pages; to *gangrene*, 17 pages; to *goitre*, 13 pages; to *head*, 56 pages; and the bibliography of the *heart* covers 101 pages.

These volumes reveal the immense wealth of the medical library which has been fostered at Washington through the indefatigable and intelligent zeal of Dr. Billings, and they constitute a very strong, although mute, appeal to Congress for a liberal appropriation for the erection of a fire-proof building for the safe preservation of this collection, the value of which cannot be overestimated.

REVIEWS.

PHYSIOLOGICAL CRUELTY, OR FACT VS. FANCY; AN INQUIRY INTO THE VIVISECTION QUESTION. By PHILANTHROPOS. 4to. pp. vi. 156. New York: John Wiley & Sons, 1883.

If anyone, doctor or layman, wishes to read a clear and dispassionate inquiry into the vivisection question, let him get this brief but valuable little book. Its origin is English (indeed, the sheets we observe are imported), and we regret not a little that its author's name is not disclosed, for it is a work he need not be ashamed of.

Most books on this question are full of invective and passion. Perhaps we should qualify this somewhat. The little that physiologists and other medical men have written in favor of vivisection has nearly always betrayed an *animus*, and not seldom some deep feeling—and a righteous wrath on their part is quite excusable; but the many writings of the opponents of vivisection, tracts, pamphlets, reports, etc., have been nearly wholly sentimental sympathy with animals, or unmitigated abuse and vituperation of doctors. Even flaming illustrated placards have been resorted to in England, to show imaginary horrors.

But Philanthropos—a happy pseudonym as contrasted with Zoöphilist—with wise but rare discretion, confines himself to a philosophical, unimpassioned, rigorous inquiry into facts, and from these deduces his conclusion, which, we need hardly say, is overwhelmingly in favor of vivisection. Only on one page do we meet with a sentence or two that betray any passion. That he can so keep his patience is quite out of the common.

We cannot pretend to analyze the book. Anyone can read it all through in an evening; and it will be a well-spent evening. We hope that many of our readers will buy it and use it as a circulating library. Especially is this use to be commended in view of the activity of the anti-vivisectionists at the present time. Its pages are an armory to supply us all with weapons at a moment's notice.

The inquiry is first, as to what are pain and cruelty, and what our rights over animals? Then what is vivi-

section? All of these are important definitions and statements of exact facts. Then follow two chapters on the relation of experiment to physiology, and the relation of medicine to experiment, wherein the achievements of experimental research are well set forth. Legislation on the subject and a final chapter terminate the book. A valuable appendix follows, which should on no account be overlooked, as appendixes are apt to be, in the reading.

Doctors have defended vivisection far too little. While we have been indifferent, the other side, by abuse, misrepresentation, and sympathy, have won many to their side. It is time for us to be up and doing, especially when legislation is threatened that will hamper medical progress and hurt the human race in health and happiness. This book will aid more than a little in this struggle for the right.

HEALTH HINTS FOR TRAVELLERS. By JOHN C. SUNDBERG, M.D. Pp. 61. Philadelphia: D. G. Brinton, 1884.

THE thinness of this book is fairly indicative of its literary constitution, and the wide margins of its pages are singularly appropriate as a hint regarding the way its statements are to be accepted. Thus, for example, the author declares on p. 15, "Although the winter temperature of Norway and Sweden is usually very severe, sometimes falling below the freezing-point of mercury, I never remember to have suffered much from cold, although I have spent nineteen winters in Norway." Such a record is truly wonderful, and unless we explain it on the supposition that Dr. Sundberg's memory, in regard to a day here and there in those nineteen winters, has failed him a little, the unusual power of calorification manifested by his organism would render him a valuable officer in the next search after the north pole.

And yet the gathered experience compressed into this volume is well worth the attention of travellers, and may be consulted with advantage which will far outweigh its cost, by anyone about to leave home, even for a few days' excursion. Among the chapters which deserve commendation are those upon "Getting Ready," "Tours Afoot," "Sea-sickness," and "The Insect Plagues," all of them being replete with practical suggestions of value. Hence we heartily commend it to the consideration of those envied individuals who, during the fiery heats of July and August, are so fortunately situated that they can get away.

SOCIETY PROCEEDINGS.

AMERICAN GYNECOLOGICAL SOCIETY.

Ninth Annual Meeting, held at Chicago, September 30, and October 1 and 2, 1884.

(Specially reported for THE MEDICAL NEWS.)

WEDNESDAY, OCTOBER 1ST—SECOND DAY.

AFTERNOON SESSION.

(Concluded from page 413.)

DR. PAUL F. MUNDÉ, of New York, read a paper on THE LIMITS OF VAGINAL HYSTERECTOMY FOR CANCER.

He said that he had operated in two cases of uterine carcinoma by the method of vaginal extirpation. One

case had survived the operation nine months, but the disease, as predicted by Dr. Heitzmann from a microscopical examination, had returned. The other case died from loss of blood.

He exhibited the uterus and adnexa removed from these two cases. He desired to reply to Dr. Jackson's paper, read at the last meeting of the Society, in which the conclusion was reached, that extirpation of the cancerous uterus was not justifiable. If Dr. Jackson had confined himself to the condemnation of Freund's operation, he would have fully concurred with him. Freund himself had given up this operation. Dr. Jackson's propositions were:

1. A diagnosis of uterine cancer could not be made sufficiently early to insure its complete removal by extirpation of the uterus.

2. When a diagnosis could be made there was no reasonable hope for a radical cure, and other methods of treatment for ameliorating suffering or retarding the progress of the disease and prolonging life, were equally effectual.

3. Extirpation of a cancerous uterus was a dangerous operation.

He then proceeded to reply to Dr. Jackson's propositions by an array of clinical and statistical evidence. To the first proposition, alone, he partially assented. To the third, he presented the following statistics in reply:

Billroth's Clinic.

					Mortality.
Excision of mammary cancer, 34 cases,					20 per cent.
" lingual	"	18	"		43 "
" rectal	"	5	"		53 "

Rose's Clinic (Marburg).

Mammary cancer,					26 $\frac{3}{10}$ "
Lingual	"				11 "
Rectal	"				53 "

Schröder had recently reported 105 high vaginal amputations, with a mortality of 13, or 12.30 per cent.; in Freund's operation a mortality of 62 per cent.; in 13 supravaginal amputations by laparotomy, a mortality of 30 per cent. Of all cases collected of total extirpation of the cancerous uterus, 256 in all (10 of these being American), 62 cases, or 24.6 per cent., died. Surely a good showing in comparison with the results of excision of cancerous tumors from other organs. THE MEDICAL NEWS, of September 19, 1883, published in its editorial columns the mortality of 167 operations; 52 patients, or 31.13 per cent., had died. With increased experience, more perfect technique, and careful selection of cases, the mortality of total extirpation of the cancerous uterus would be brought down to a still lower figure.

Dr. Mundé formulated his conclusions after this thorough *résumé* of clinical observations and statistics as follows:

1. Limitations of the cancerous degeneration to the uterus and absolute freedom from disease of the parametrium. (Of course, the disease must extend above the level of the vaginal vault, and be ineradicable by simple amputation or excision.) If the finger in the vagina or rectum detects the slightest infiltration of glands, lymphatic vessels or cellular tissue, or the microscope reveals doubtful cellular formations in sec-

tions of mucous membrane removed from the vaginal vault, complete extirpation should be abandoned.

2. Cancer of the cervix extending up the cervical canal to a height, the precise limit of which is doubtful, thereby rendering the probability of complete removal of the disease, by high supravaginal amputation and cauterization, extremely questionable.

3. Cancer or sarcoma of the body of the uterus. Schröder's method of intraperitoneal amputation of the *corpus uteri* might be substituted (7 operations, with 2 deaths; no recurrence within two and a half to five years in 4 cases, or 80 per cent.). The fifth case could not be traced.

4. Perfect freedom of motion of the uterus, so that the uterus can easily be drawn down to the vulva by traction on the cervix, and can be moved in every direction. This condition I consider absolutely indispensable.

5. A capacious vagina, permitting ready exposure of the cervix and vaginal vault throughout, and easy manipulation of ligatures and instruments. Section of the perineum should be admissible for the purpose only when a narrow vagina is the sole obstacle to a successful operation.

6. A sufficiently vigorous condition of the general system, such as absence of other serious organic disease of other organs, as to permit the patient to stand the shock which, as a rule, is very much less than the gravity of the operation would lead one to expect. Cachexia, if present, would denote such progress of the local disease as to contraindicate the operation. Ols-hausen had well said, "The safe plan is always complete extirpation."

DR. JACKSON did not think Dr. Mundé's array of evidence, clinical or statistical, rendered invalid the conclusions of last year's paper. Two centuries of human life had been needlessly sacrificed by the operation. The period of prolongation of life, in so-called successful cases, could not, by any array of figures, be made to equal two centuries. The fact that the mortality of the operation had been reduced from 31 per cent. to 25 per cent. had no particular bearing upon the principal question in Dr. Mundé's paper. He was strengthened in the position taken one year ago. Dr. Van de Warker was grieved that Dr. Jackson's paper had been apparently commended at last year's meeting, for the matter had escaped abroad that American gynecologists opposed the operation. This was not the case. Carlyle once wrote to Emerson, "Nothing lies like figures, except facts." Very few inferences could be logically drawn from statistics. The question at issue was, How many recover? not, How many die? He was an especial advocate of the knife. He thought other methods yielded equally favorable results.

DR. ENGELMANN thought the operation was still *sub judice*, and dogmatism, on either side, was in bad taste. The improvement in mortality statistics was sufficient to warrant continuance of the operation.

DR. PALMER cordially endorsed Dr. Mundé's conclusions.

DR. BAKER sympathized heartily with Dr. Mundé's conclusions. He had operated in six cases of uterine cancer by his own modification of the Sims-Schröder method. Five cases, after an interval of five years, are living.

DR. SCOTT thought the legal profession had lost in

Dr. Mundé a member who would have reflected honor upon his calling. The question was a fight between the old fellows and the young fellows, and he always sympathized with the young fellows.

DR. REAMY was not influenced by Dr. Mundé's paper to such a degree that he was willing to subscribe to it.

DR. FENGER had listened to the discussion with interest, and was glad to hear opposition to Dr. Jackson's paper, which he believed to be unsound and illogical.

THURSDAY, OCTOBER 2D—THIRD DAY. MORNING SESSION.

DR. EDWARD WARREN SAWYER, of Chicago, made SOME REMARKS ON THE OCCIPITO-POSTERIOR POSITION IN VERTEX LABORS; WITH AN ANALYSIS OF THIRTY-FIVE CASES.

He said that since he prepared the paper he had met with three new cases of the occipito-posterior position, which made the total number of vertex presentations and occipito-posterior positions respectively 183 and 38. Great disparity exists among writers respecting the frequency with which the occiput is found in the posterior half of the woman's pelvis in presentations of the vertex. While the statistics of Madam Boivin¹ show that it was thus located 203 times in 19,717 vertex labors, or a fraction more than once in 100 times. Merri-man encountered this position 3 times in 149 labors. In 178 labors, in which the vertex simply presented, occurring under the observation of the writer, the occiput was found posterior 37 times; or in nearly one-fifth of all vertex presentations. This series of 37 cases forms the basis of the writer's remarks. Between the right and left side of the pelvis there is the greatest inequality as to the frequency of the occiput. In 3 of the writer's cases it was in the left of the pelvis, while in the remaining 34 cases it was directed to the right of the woman.²

Satisfactory explanation of the frequency of occipito-posterior presentations of the vertex are not found in the literature of the subject. Of the writer's cases, 25, or about two-thirds of the entire number, occurred in primiparæ. This fact led to an inquiry as to the anatomical difference between the primiparous and multiparous woman, which would operate in a mechanical manner, with the following conclusions: The unyielding abdominal walls of the primipara, at their attachment to the upper edge of the anterior half of the basin, conform less readily to the square, unyielding back and scapular regions of the fœtus, than to its abdominal and thoracic surface. As a result, and in obedience to that law, whereby the ovoidal fetal mass is disposed with reference to the greatest economy of uterine space, the back is made to occupy the hollow at the side of the woman's vertebral column. On the other hand, the parietes of the multiparous woman having been stretched, their elasticity permits the fullest operation of the laws of gravity, and of other influences, in compelling the occiput to occupy the lowest point, or the anterior half of the pelvis. This observation finds some

¹ Mémorial de l'art des Accouchements, page 212 et seq., Paris, 1836.

² Velpéau, Traité complet de l'art des Accouchements, vol. i. page 504, Paris, 1835.

support in the fact that the largest fetuses have presented at the occiput posteriorly.

That the long diameter of the vertex is less frequently coincident with the left oblique diameter of the pelvic canal than with the right, is due, undoubtedly, to the presence of the rectum.

As to the mechanism of labor in posterior positions of the vertex, writers are remarkably in accord in perpetuating a theory, the correctness of which the author questions. The almost unanimous teaching is, that in posterior positions the mechanism of labor is the same, in all essential particulars, as in occipito-anterior positions. Chaillay-Honoré, Tarnier, and Chauvillat, Leishman, and Lusk, substantially advocate the doctrine.

Baudelocque, however, describes the mechanism in the following words: "In the most natural order the occiput sinks into the excavation, passing in front of the sacro-iliac symphysis till the posterior superior part of the parietal bone is grounded upon the base of the sacrum. At this moment, the head being forced to turn on its pivot, the occiput passes into the hollow of the sacrum, which is very near, and the forehead, in following the inclined plane, which is offered by the left side of the pelvis, is carried under the pubes."

Playfair admits that "the proportion of cases in which face-to-pubes terminations of occipito-posterior positions occur has been variously estimated, and they are certainly more common than most of our text-books lead us to expect. Leishman, however, speaks of this termination as a somewhat rare exception.

The writer's observation tends to show the reverse of this teaching to be true; and that, when the occiput engages in the excavation in a posterior position, it persists in remaining, and is delivered in this position if no interference is made. Further, that it is with the greatest rarity that the occiput rotates forward into the anterior half of the pelvis. In but two of my cases does the record state that this rotation was performed by the unaided efforts of nature. Both these cases occurred in the early part of the writer's practice; and, now that he realizes the fallacy of the mode of diagnosing these positions by the vaginal touch alone, which he then employed, he is led to question the accuracy of the two observations. In three other cases the writer rotated the occiput with his entire hand in the vagina. In two other cases the fetus was delivered by version. In the remaining thirty cases the occiput remained, and was delivered in its posterior relations, though in some of these cases rotation with the fingers was attempted. Rotation with the forceps or vectis was not tried. Waiting for spontaneous rotation forwards, as indicated by Lusk, was deemed injudicious by the writer. As regards the period of waiting for spontaneous anterior rotation, La Chapelle, in Case No. 38, waited twenty-four hours, delivered of a dead fetus a woman, who died soon afterwards.

In two of the cases coming under the writer's observation, the mother died. The first was the wife of a physician, whose colleagues had waited some twenty-eight hours for spontaneous anterior rotation; forceps had been tried in vain. The writer delivered, with comparative ease, by version, the woman of a dead fetus. The unfortunate lady died soon afterwards of shock and exhaustion. The second woman was delivered, with the aid of forceps and ether, by the writer,

of a living fetus. She died four hours afterwards of cardiac thrombosis. The period of waiting for anterior rotation had been too long. To conclude, given a case of this position, the writer entertains no expectation of spontaneous forward rotation of the occiput before either mother or child demand succor. The writer's rule is, never to allow, in vertex presentation, the head to rest at any point of the parturient canal longer than two hours after the waters have drained away.

Operative interference in cases of occipito-posterior positions must be regulated as to time and character by considerations of the individual patient. As regards diagnosis before vaginal examination, much may be inferred from the character of the pains, which, in occipito-posterior positions, are characteristically regular, short, and inefficient. After diagnosis, the patient being etherized, which may be definitely made by passing the hand between the face and the symphysis, and touching the superciliary ridges, two courses are open to the practitioner: (1) Drag the head through the canal in its posterior relations by means of the forceps, or (2) attempt anterior rotation.

With the entire hand in the vagina, the writer believes that in the larger percentage of cases the shoulders and head can be easily turned through one-fourth of a circle, by making pressure upon such parts of the shoulders and head of the fetus as will at once be suggested to the accoucheur whose hand clasps within its palm the rounded head. The writer has derived some aid in using the external hand conjointly upon the abdomen; but he desires to emphasize the fact that he has failed, without exception, to rotate the slippery vertex with the finger-tips, as is so attractively described in some text-books. Sometimes, owing to the contraction of the uterine neck around the foetal shoulders, anterior rotation by the hand is impossible without exposing the fetus to danger. Rotation forwards being effected, it is the writer's opinion, that labor should be terminated by the forceps, while the woman is still under ether.

When rotation of the occiput forwards cannot be effected, the forceps must be applied as usually applied in America; the forceps is a peculiarly ineffective instrument in these cases. The woman is placed upon her back, and the forceps adjusted; now, either the blades will slip over the occiput, and injure the maternal soft parts or the ear zone, or the zone anterior to this region will be grasped, and traction will be made in the line of the principal axis of the maternal vertebral column, and as a consequence the head will be dragged firmly against the pubic symphysis.

The writer etherizes his patient, places her in the left lateral, or English position, with hip hanging over the edge of the bed. Then, he introduces and applies the continuous curved forceps, presented by himself to the profession in 1878. The handles of the instrument are brought against the anterior edge of the perineum, and traction is made in the direction of the pelvic axis. During this traction, the head is kept flexed, so that, at the moment of birth, occipito-frontal circumferences are substituted for occipito-mental dimensions, and the perineum is thus materially protected.

Just as the occiput appears at the vulvar orifice, the handles of the instrument may be grasped in the left hand, while the right is in readiness to support the perineum, and perform episiotomy. Some perineal lacerations

tion occurred in all of the writer's cases; complete rupture occurred in but one case; episiotomy saved the perineal raphe in about one-half the cases.

The fetal mortality in these 37 cases was as follows: six were born dead, and four others died within thirty-six hours succeeding birth. Of those born dead, two were delivered by version; but in both instances the forceps had been employed and life was extinct probably before the operation was resorted to. One died some days before birth, from intrauterine rupture of the umbilical cord. In some instances, the writer cannot escape the conviction that the foetus was injured by the forceps.

DR. W. S. RICHARDSON, of Boston, was of the opinion that the occipito-posterior position of the vertex usually underwent anterior rotation, and that remaining with the occiput to either sacro-iliac synchondrosis was very exceptional. When anterior rotation does not occur the sincipital arm of the cephalic lever is on a level with the occiput, and the large fontanelle is easily felt. He was in the habit of applying Simpson's forceps, reversed, effecting flexion of the chin upon the chest, when the vertex was applied to the pelvic floor, and anterior rotation usually followed.

DR. REAMY thought that twenty per cent. was entirely too high a percentage for occipito-posterior positions. Anterior rotation usually occurs. Anterior rotation occurs in a case of right occipito-posterior position when the left extremity of the sincipital lever ascends the left anterior inclined plane of the pelvis. All he attempted to do with the forceps was to effect anterior rotation when it did not occur spontaneously. Dr. Sawyer's remarks upon the usual error in applying traction were unnecessary, as few obstetricians are such poor mechanics as to pull the head against the pubis. He saw no advantage in Dr. Sawyer's instrument above other instruments already in existence. Still it was the inalienable right of every obstetrical teacher to invent a new forceps, if he so desired.

DR. HOWARD suggested the application of Tarnier's forceps in these cases.

DR. REAMY thought that Dr. Smith's method of using the forceps as a lever and tractor rendered the ordinary instrument safer than Tarnier's.

DR. JOHNSON, DR. HOWARD, and DR. ENGELMANN thought that more depended upon the hand at the end of the instrument than upon the instrument itself.

DR. ALBERT H. SMITH criticised the plate from Smellie, by which Dr. Sawyer illustrated his paper. The woman was completely eviscerated. Naegelé said that out of 1254 cases of vertex presentation, but 17 were cases of occipito-posterior position. Dr. Sawyer's experience must have been accidental.

As regards the etiology of occipito-posterior position, he thought the posterior inclined plane was deficient or defective where the head did not rotate anteriorly. Before the head was engaged, he tried to remedy the evil by placing the woman in a knee-elbow position, and using the force of gravity. He had never been able to effect rotation in the brim with forceps or his hands. In cases of deformed pelvis, he flexed the head on its parietal axis, by Davis's forceps much in the manner indicated by Dr. Richardson.

DR. SAWYER was grateful for the discussion which his paper had elicited. In regard to Dr. Smith's criticism of Smellie's plate, he had the temerity to say that

Smellie had attended many meetings where there was just as much tendency to digression as in the present meeting. He had left out those intestines purposely. The members would have immediately commenced discussing gall-stone, enteritis, and dyspepsia!

AFTERNOON SESSION.

THE PRESIDENT, after calling the meeting to order, introduced

THE PRESIDENT-ELECT,

Dr. Howard, of Baltimore, who, after a brief address, took the chair.

DR. GEORGE J. ENGELMANN, of St. Louis, then read a paper entitled

A RARE AND FATAL FORM OF SEPSIS WITHOUT SYMPTOMS.

He related the histories of four cases of fatal sepsis without symptoms.

Case I. An old gentleman, a relative of the writer's, was in Langenbeck's clinic, and attended by the best men in German medicine. He failed steadily, and they could detect nothing abnormal. The autopsy revealed an abscess in the prostate, and one kidney and ureter floating in pus. A slight diarrhoea was the only symptom in this case.

Case II. A child, after recovery from diphtheria, after apparent convalescence, died of sepsis without symptoms, save a slight diarrhoea.

Case III. A puerperal woman died of septicaemia without symptoms, save a slight chill and fever the day before her demise.

Case IV. occurred in a woman suffering from pelvic cellulitis and uterine disease.

The only two symptoms in all these cases were very slight diarrhoea and a feeling of mental anxiety, evincing itself in gaiety or depression.

The following papers were then read by title: *The Physiognomy of the Vulva as a Sequence of Anal Disease, and the Cause or Sustaining Cause of Uterine Disease*, by Dr. Isaac E. Taylor, of New York; *The Early History of the Treatment of Vesico-vaginal Fistule in the United States, and the Statistics of the Several Modes of Operating*, by Dr. Nathan Bozeman, of New York; *Periodical Symptoms in Uterine Disease*, by Dr. George J. Engelmann, of St. Louis; *Contributions to the Topographical and Sectional Anatomy of the Female Pelvis*, by Dr. David Berry Hart, of Edinburgh; *Fibro-myomata and Fibro-cystic Myomata of the Uterus—their Diagnosis, Prognosis, Pathology, and Treatment, with Cases and Specimens*, by Dr. R. Stanbury Sutton, of Pittsburg; *On the Ring of Bandl*, by Dr. William T. Lusk, of New York.

A vote of thanks was tendered the local Society and members of the Chicago medical profession, and the Society then adjourned to meet in Washington on the third Tuesday in September, 1885.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Stated Meeting, October 2, 1884.

THE PRESIDENT, R. A. CLEEMANN, M.D., IN THE CHAIR.

DR. B. F. BAER exhibited specimens from a case of SUBMUCOUS AND INTERSTITIAL FIBRO-CYSTIC TUMOR OF THE UTERUS, IN WHICH HEMORRHAGE WAS ABSENT.

Mrs. H., æt. 36 years, has had two children, the youngest being twelve years of age. Four years ago

she suffered from severe metrorrhagia, which was caused by a submucous and interstitial fibroma of the uterus. This was removed, and, after passing through a severe attack of periuterine inflammation, she recovered. After the removal of the growth, her catamenial periods became regular in time and quantity, and she remained well until about one year ago, when she began to have a very fetid, watery discharge in the intermenstrual periods, with sacral pains and uterine tenesmus. On July 17th, her physician, Dr. R. Armstrong, of Lock Haven, requested me to see her with him, when examination showed the cervix to be twice its normal size, with swollen and gaping lips, making the os and cervical canal quite patulous. The body of the uterus was as large as at the third month of gestation, but it was not symmetrically developed, being larger on the left than on the right side. The left broad ligament was indurated, and seemed to be the seat of an old inflammatory process. Pain had been present in this region since the operation. The sound met with an obstruction at the internal os, and was deflected to the right, passing to a depth of nearly four inches. It could be made to pass around a mass of some kind in the cavity of the uterus, giving an indistinct sensation of the presence of an abnormal growth. I expressed the opinion that although there had been no hemorrhage, there was a submucous or polypoid fibroma present, and advised its removal. Seven tents were introduced, and twenty-four hours later ether was administered, when, with the assistance of Drs. Armstrong, Walls, and Ball, I proceeded to remove the tents and explore the uterine cavity. On passing my finger within the internal os, I detected a smooth, oval-shaped mass of tissue resembling, in consistency, the inverted uterus enlarged to about double its normal size. I carried my finger up with some difficulty, and found the base or attachment of the tumor to be located at the fundus of the uterus, where it was narrowed somewhat, forming a sort of pedicle. The tumor felt rather soft for a fibroma, and this, together with its shape, caused me to suspect inversion of the uterus, and when I remembered that the organ is sometimes inverted by the operation for the removal of an interstitial fibroid, which requires great traction, as was necessary in this case four years previously, I became much more anxious to investigate fully before attempting to remove the mass. By very careful and thorough bimanual manipulation, I convinced myself that the uterus was not inverted; there was no indentation anywhere on its surface. I therefore felt warranted in adjusting the wire of an *écraseur* around its attachment, and proceeded to tighten it, but the traction and manipulation which were necessary in placing the noose, broke the surface of the tumor and exposed a peculiar-looking membrane, which resembled the peritoneum. I was alarmed at this, fearing that I had really to deal with a partially inverted womb, and that the smooth membranous surface was the peritoneum. I removed the *écraseur*, the wire of which had broken, and then passed one finger into the bladder and another into the rectum, for the purpose of determining more certainly the condition of the peritoneal surface of the uterus. Now, while an assistant made traction on the supposed tumor, I was enabled to satisfy myself fully that the organ was not inverted. I then removed the tumor by enucleation.

As you will see in the specimen which I present, there are a number of cysts. These cysts contained the semi-opaque coagulable fluid usually found in fibro-cysts, and gave to the tumor its softness, which, together with its shape and the appearance of the cyst-walls when its surface was broken, made it resemble an inverted uterus. The patient made a good recovery.

The case is very unusual for the reason that, although the uterine cavity was distended by a large submucous tumor, which was becoming polypoid, not the slightest hemorrhage resulted. I do not remember to have met with a similar case. I have, however, met with cases of small polypi in which there was no hemorrhage; two, indeed, were discovered after the menopause had been fully established, and are worthy of record, because of the reflex symptoms which they seemed to induce.

DR. BAER then reported a case of

UTERINE POLYPUS IN WHICH HEMORRHAGE WAS ABSENT, BUT WHICH GAVE RISE TO SYMPTOMS OF PREGNANCY.

Mrs. C. was forty-six years of age; she had been married twenty years, but had never been pregnant. The menopause had occurred one year previous to the date at which I saw her. Soon after the cessation of the catamenia her abdomen began to enlarge, and she thought she was pregnant. Various irregular reflex symptoms of pregnancy developed, and she became so convinced that she engaged the services of an accoucheur and nurse, and went into labor in due time. Her physician, my friend, Dr. John H. Musser, was unable to discover the least physical sign of gestation, nor anything else which should give rise to the almost perfect labor-like pains which she seemed to have at irregular intervals. He informed her that she was not pregnant. She became indignant, and asked him to call another physician to confirm what he said. He consented, and requested me to see the patient. I excluded pregnancy, but found in the cervical canal a fibrous polypus not larger than an ordinary marble. This I at once removed, and the pains and other signs of gestation immediately subsided.

This was one of the cases of spurious pregnancy which we sometimes see developed in a sterile woman about the period of the menopause. The desire for offspring is strong. The cessation of the menses starts the delusion, and it is kept in existence and made to grow by being constantly fed by a morbidly susceptible nervous system. But there was a local irritation here to account for the reflex symptoms of gestation, as I believe there is in the majority of these rare and interesting cases. It is three years since this patient was under treatment, and there has been no return of the reflex disturbance.

DR. BAER also reported a case of

UTERINE POLYPUS IN WHICH HEMORRHAGE WAS ABSENT, BUT WHICH SEEMED TO INDUCE SEVERE REFLEX HEAD SYMPTOMS.

Mrs. K., *æt.* 52 years, has had two children, the youngest being twenty-five years of age. The menopause had occurred four years previously, and she did not complain of the slightest local symptom of uterine disease; but the flushings and other nervous manifestations which often attend this period had not yet subsided. The disturbances, however, which concerned her most, and for which she consulted a doctor, were

pain and pressure, of a very aggravated form, on the top of the head. Many remedies had been prescribed for the relief of this, but with only temporary benefit. A uterine examination was made, and a polypus resembling in size a small walnut was discovered in the canal of the cervix. This was removed some months ago, and I believe the patient has been relieved of the headache and other reflex symptoms which seemed to result from its presence.

The influence which these small growths have on the nervous system is something remarkable, but the absence of hemorrhage, especially in the first case, is more notable when we recall its size and location, and remember that death has resulted from the hemorrhage caused by polypi not larger than a pea, as recorded by Locock, Klob, Courty, and others. I have no doubt some of you can recall cases, as I can, in which death would doubtless have resulted from the hemorrhage produced by a small polypus, had not the cause of it been removed. The following is an illustrative case.

UTERINE POLYPUS ATTENDED WITH GREAT HEMORRHAGE.

Mrs. P. consulted me on September 20, 1883. She was thirty years of age, and had been married eight years, but had been sterile. Two years ago she began to suffer from menorrhagia, with uterine tenesmus. Soon after she lost blood at irregular intervals and in large quantities; during the past year she had not often been free from metrorrhagia, or a profuse and offensive leucorrhœa. The hemorrhage would sometimes last a whole month continuously, and leave her so prostrated and anæmic that it was thought she could not rally. She had lost thirty pounds in weight, and was blanched in appearance.

I will confess that I was surprised to find, on examination, that my patient had a polypus not larger than a Concord grape; the mucous membrane of the cavity of the uterus was hypertrophied and granular. The pedicle was attached far up in the cavity of the uterus. The tumor was removed by means of the curette, and the patient now menstruates regularly. This case contrasts strongly with the three others in its hemorrhagic character, and it presents the history commonly met with in these growths. There is no doubt that the location of the tumor has great influence in the cessation of hemorrhage in these cases, much greater than the size of the growth; but much also depends upon its histological character and the condition of the endometrium. Thus, when a fibroid tumor, or polypus, is situated in the cavity of the uterus proper, more hemorrhage is likely to result than when it grows from the tissues of the cervix, because if located in the former position it is often of the muscular variety, and, therefore, more vascular, and the mucous membrane of the uterine cavity, which is the direct source of the hemorrhage, is usually hypertrophied and granular, as in the last case narrated. Moreover, when the cavity of the uterus is the seat of a polypus, the uterine and pelvic circulation is stimulated by its presence, somewhat in the manner in which it is effected by the presence of a fecundated ovum which has been blighted; it is a foreign body, and the uterus tries to expel it, but by the effort the circulation is excited in that direction, and hemorrhage results. My first case, however, furnishes an exception to the rule

that hemorrhage attends when the tumor occupies the uterine cavity, but as tenesmus was present, it is possible that hemorrhage might have occurred later had the tumor been allowed to remain.

DR. GOODELL remarked that the question of hemorrhage in polypi is a curious one. It seems less likely to occur when the tumor is in the body of the uterus, and checks the amount of circulation by exciting tonic contractions, than when it is protruding into the cavity like the clapper of a bell. In one case, in which the hemorrhage had produced extreme anæmia, dialyzed iron was given to relieve the anæmia, and it also checked the hemorrhage. In another case, operation was refused, and death resulted from hemorrhage three days after the visit.

DR. WM. GOODELL, then made some remarks on

RAPID DILATATION OF THE UTERINE CANAL.

For many years, he said, I enlarged or straightened the uterine canal, according to the requirements of the case, either by tents or by Sims's operation, and preferably by the former. Having had several serious warnings in the shape of inflammations following these operations, I began to perform them with fear and trembling. Yet nothing very untoward happened until the year 1878, when two grievous mishaps befell me.

A charming young lady, the centre of a large circle of admiring friends, came from a neighboring State to consult me about a dysmenorrhea, which grew worse and worse every year. The cervix was so bent forward, and the stenosis of its canal *per se*, as well as by angulation, was so marked that I unhesitatingly performed Sims's operation. Within a few days septicæmia set in, soon the parotid glands swelled up, and on the ninth day she died. True it is, that, at the same time, two piles also were tied, but this latter operation I had, and have, performed so many times with impunity that I was, and am still, disposed to attribute the blood-poisoning to traumatism of the cervix, and not to that of the rectum. Hardly had I time to recover from this bitter blow, when a case of exhausting menorrhagia fell into my hands. The lady was the young bride of a husband well advanced in life. I dilated the cervical canal with tents, and curetted many vegetations from the endometrium. A furious peritonitis set in, and in less than three days this young wife lay dead, and the husband was frantic with grief.

The anguish which I felt at the death of these two ladies, and the heartrending scenes which I witnessed at their bedsides, scenes which I cannot now recall without emotion—urged me to try any remedy that gave promise of efficiency combined with greater safety. In the search for a substitute, I tried rapid dilatation, which Ellinger and others had proposed, and since that year—that *annus iræ*—I have not once performed Sims's operation for dysmenorrhœa, and I have so narrowed the field for the use of tents that I now very rarely resort to them. In short, rapid dilatation has proved, in my hands, so safe and so efficient an operation that I wish to urge its claims before this Society.

The instruments which I would recommend are two Ellinger dilators of different sizes. These are the best on account of the parallel action of their blades. The smaller of these dilators has slender blades, and it pilots the way for the other, which is more powerful,

and with blades that do not feather. I have had the beaks of these dilators changed from an obtuse angle to a slight curve so that it can be reversed within the womb. The light instrument needs only a ratchet in the handles, but the stronger one should have a screw with which to bring the handles together. Lest the beak should hit the fundus uteri, and seriously injure it when the instrument is opened, the blades are made no longer than two inches, and are armed with a shoulder which prevents further penetration. The larger instrument opens to an outside width of one and a half inches, and it has a graduated arc in the handles by which the divergence of the blades can be read off. The instruments which I now exhibit to you, and which I can recommend highly, have been made under my supervision by Messrs. J. H. Gemrig & Son, of this city.

In a case of dysmenorrhœa, or of sterility from flexion or from stenosis, my mode of performing the operation of rapid dilatation is as follows: The patient is thoroughly anæsthetized, and a suppository containing one grain of the aqueous extract of opium is slipped into the rectum. She is then placed on her back, and drawn to the edge of the bed, the knees being supported by her nurse. The light must be good, so that the operator may clearly see what he is about. By the aid of a strong tenaculum, applied through my bivalve speculum, the cervix is steadied, and the smaller dilator is introduced as far as it will go. Upon gently stretching open that portion of the canal which it occupies, the stricture above so yields that when the instrument is closed it can be made to pass up higher. Thus by repetitions of this manœuvre, little by little, in a few minutes time a cervical canal is tunnelled out, which before could not admit the finest probe. Should the os externum be a mere pinhole or be too small to admit the beak of the dilator, it is enlarged by the closed blades of a straight pair of scissors, which are introduced with a boring motion. As soon as the cavity of the womb is gained, the handles are brought together. The small dilator being now withdrawn, the larger one is introduced, and the handles are then slowly screwed together. If the flexion be very marked, this instrument after being withdrawn should be reintroduced with its curve reversed to that of the flexion, and the final dilatation then made. But in doing this, the operator must take good care not to rotate the womb on its axis, and not to mistake the twist for a reversal of the flexion. The ether is now withheld, and the dilator kept *in situ* until the patient begins to flinch, when the instrument is closed and removed. A few drops of blood trickle out of the os. Occasionally a slight flow of blood will last for several days after the operation, simulating the menstrual flux. Often this flux is precipitated or renewed, if the operation follows or precedes it too soon. The best time for dilatation is, therefore, midway between two monthly periods.

When compared with the cutting operation this one looks like rough usage, yet the woman rarely needs more than two or three suppositories, and complains merely of soreness for one or two days. To forestall any tendency to metritis, she is kept in bed until all tenderness has disappeared. Pain is met by rectal suppositories of opium, and by large poultices laid over the abdomen. I have seen slight pelvic disturbance arise from this operation, but it has always been readily controlled and has not given any alarm.

In the great majority of cases I dilate the canal, not to the fullest capacity of the instrument, but to one and a quarter inches. Sometimes in an infantile cervix which does not readily yield and might give way, the handles are not screwed down more than three-quarters of an inch or an inch. Tearing of the cervix has happened in two of my cases. In one, that of a virgin, the cervix was split half-way down to the vaginal junction. The other case was that of a multipara, whose uterine canal had been nearly closed up by applications of nitrate of silver, made by her physician with the view of curing what he supposed was an "ulceration of the os," but which was a bilateral laceration. The tissues, rendered cicatricial and brittle by the caustic, were torn by the dilator for about half an inch on the right side also. Here the hemorrhage was free enough to need styptic applications and a tampon. I could have stopped it by wire sutures, but this was not done, as it would have defeated the object of the operation.

For slight dilatations, such as for the office treatment of antelexions and of stenosis, or for the introduction of the curette, or of the applicator armed with cotton, the more delicate instrument is quite strong enough, and an anæsthetic is not needed. Sometimes in a very sharply antelexed womb the dilator cannot be made to pass the os externum. This difficulty is overcome by first passing in a surgeon's probe, and then along it, as a guide, the dilator. After a forcible dilatation under ether, the cervical canal rarely returns to its previously angular or contracted condition. Since lateral extension of elastic bodies antagonizes their length, the cervix shortens and widens, and the plasma provisionally thrown out by the submucous lesions sustained by the dilated part, serves still further to thicken and stiffen its tissues. In other words, the stem-like neck of the pear-shaped womb is shortened, widened, strengthened, and straightened. Hence, for straightening out antelexed or congenitally retroflexed wombs, and for dilating and shortening the canal in cases of sterility or dysmenorrhœa, arising from stenosis or from a conical cervix, the dilator will be found a most efficient instrument. In its results it is not infallible. I have twice been obliged to repeat the operation, and would like to have done so in several other cases, had the women permitted it. In a very few instances I have been forced, as a final resort, to nick a pinhole os externum, but I had not then learned how far I could safely stretch open the uterine canal, and the operation of dilatation was not so efficiently performed by me as it is now through a larger and riper experience.

But it is not to cases of dysmenorrhœa that I limit the operation of rapid dilatation. As stated before, I use it to stretch open the canal for the admission of the curette and of sponge-tents, or for the purpose of making application to the uterine cavity. In cases needing irrigation of the uterine cavity, I first dilate the canal with this instrument and introduce the nozzle of the syringe between the separated blades. This gives a free avenue for the escape of the liquid, and robs of its dangers this form of intrauterine medication. I also resort to the dilator in order to explore the womb with the finger. For instance, in any given case of menorrhagia in which a polypus or some other uterine growth is suspected, instead of using tents, I put the woman under an anæsthetic, and after the rapid dilatation of

the cervical canal to the utmost capacity of the instrument, viz., one and a half inches, am enabled to pass my finger up to the fundus. This is accomplished either by drawing down and steadying the womb by a volsella forceps, or, in thin subjects, by forcing the womb down upon the finger by suprapubic pressure on its fundus. In this way I have over and over again, at one sitting, discovered a uterine growth, twisted it off, and removed it. Usually in these cases I experience more difficulty in removing the polypus or other growth through the small canal than in twisting it off from its uterine attachment. It often has to be wire-drawn before it can be removed, and sometimes the os uteri has needed a few nicks. Usually, when the menorrhagia is free, the cervical tissue is so loose that there is no difficulty in the introduction of the index finger up to the fundus, but sometimes only its tip can be made to pass the os internum. Yet even this limited degree of penetration is commonly quite enough to decide the presence of an inside growth. If it is not enough, I invariably search for a growth with a small pair of fenestrated forceps, and I have repeatedly seized and removed one, the existence of which was merely suspected. After such operations the uterine cavity is thoroughly washed out with a solution of carbolic acid, or of potassium permanganate.

I am sorry to say that I have not kept full records of all my cases of rapid dilatation. For instance, I have never recorded those office cases of dilatation in which ether was not given. Nor has any note been made of cases in which dilatation was performed under ether for curetting, for digital exploration of the endometrium, or for the removal of uterine growths. I have tabulated merely cases of dysmenorrhœa in single or in married women. In the married, with but three exceptions, which will be noted, painful menstruation was accompanied by sterility.

Including all the cases of dilatation performed under ether, I must have had over three hundred. I have limited myself to these cases because the use of an anæsthetic implies full dilatation—one in which serious injury, if ever, would most likely be sustained. Yet there has not been a death or a case even of severe inflammation in my practice, and the results have been most satisfactory, far more so than when the cutting operation was performed by me. The following are the statistics of my cases of dysmenorrhœa:

Unmarried,	80
Married,	88
	<hr/>
	168

Of the unmarried eighteen were unheard from after the operation, leaving sixty-two from which any data could be obtained. Of these thirty-eight were cured, seventeen more or less improved, and seven not improved at all. Of the seven that were not benefited by the operation, five subsequently had their ovaries removed—one of them by another physician and four by myself—of the latter one died. In each one the ovaries had become so altered by cystic or by interstitial degeneration as to make the dysmenorrhœa otherwise incurable. Of the seventeen improved, there was one on whom oöphorectomy was also performed, for although the dysmenorrhœa was greatly relieved by

dilatation, ovarian insanity and menorrhagia were not. The operation was a successful one, and my patient was not only cured of her hemorrhages, but she regained her reason. Out of these cases, the majority, although not wholly cured, were greatly improved. For example, one of them was formerly bedridden during the whole period of her menstrual flow, and had then to take large doses of morphia. She also suffered at those times from hematemeses and epistaxis. Since the operation she experiences pain for merely two hours, needs no anodyne, and has lost her ectopic hemorrhages. Her gain in health and flesh has been great. Another one, who was wholly crippled by her sufferings, and made nervous by the dread of them, is now a busy nurse. For one hour at every period she suffers a great deal, but she is too much afraid of taking ether to have a second dilatation performed.

Of those cured, two had Sims's operation performed previously without benefit, and were afterwards dilated; two were dilated twice before a cure could be brought about. The history of several cases merits more than a mere allusion. The sufferings of one of my patients at every monthly period had always been great; but while she was at a boarding-school they grew so intense as to cause furious delirium at those times. This finally developed into permanent insanity with suicidal impulses. While in this condition she was placed in my hands. After rapid dilatation of the cervical canal the dysmenorrhœa wholly disappeared. The exemption from pain toned down some of her more extravagant delusions, but she did not wholly regain her reason until a few months afterwards. She is now free from all menstrual pain, and in complete possession of her mental faculties.

A Hebrew lady, whose health had suffered from dreadful dysmenorrhœa, was improved so much at one sitting that her physician and friends were amazed. Not long afterward he asked me to perform the same operation upon another one of his patients, who was, if anything, worse. Her sufferings were so intense that he wrote, "I fear that another period might kill her," and urged an immediate operation. The cervix in this case was conical and very dense. Fearing a tearing of the parts, I screwed the instrument slowly up to one and a quarter inches, and kept up this amount of dilatation for some twenty minutes. The cervix sustained no injury. The canal has since remained patulous, and she is free from all menstrual pain.

Of the married, 53 were heard from. Of these, 39 were cured, 10 improved, and 4 unimproved. Out of these 53 cases, 9 were not in a condition to conceive, 3 of them from fibroid tumors, 2 from destructive applications of nitrate of silver to a lacerated cervix, 3 from being over forty-one years of age, and 1 from being a widow. This leaves but 44 capable of conception, and of these 8, or a little over 18 per cent., became pregnant. But the ratio is in fact larger, for several of my patients, fearing pregnancy, employed preventive measures after the operation. Then again, I believe that others who consulted me merely for painful menstruation have not reported their subsequent pregnancies. For instance, two months ago I learned, through the merest accident, that the wife of a clergyman, whose cervical canal I dilated six years ago, has since been making up for lost time by giving birth to twins within

a year after the operation, and later to several other children. She had been married eight years before she came to me, and had had her cervical canal dilated by tents and slit up with Peaslee's metrotome by a skillful surgeon. I have also had several cases of pregnancy following office dilatations of the uterine canal in which ether was not given, and consequently the lumen of the canal was not much enlarged. But such slight operations were not deemed worthy of record, and they, therefore, have no statistical value.

DR. HARRIS inquired about the danger of lighting up a former ovaritis by dilatation. The operation is successful, but that is its danger.

DR. GOODELL has not hesitated to operate, but always uses opium first, and by the time the operation is over the patient is under its influence. He keeps them in bed and under opium until all tenderness has passed entirely away.

NEWS ITEMS.

MONTREAL.

(From our Special Correspondent.)

FAREWELL HONORS TO DR. OSLER.—When it was definitely known that Dr. Osler was to leave Montreal on Monday, October 11, for Philadelphia, a committee of medical men undertook the preparations necessary to give a last opportunity to the profession to meet him, as a fellow-citizen, in social gathering. Though the time allowed this was extremely brief, the occasion was a great success. By far the larger part of the English-speaking medical men of the city attended, while the French-speaking portion of the profession was represented by some of its ablest members. But there was a gloom resting like a cloud over the whole gathering; those jolly spirits that usually keep the table amused were subdued, and many were evidently struggling with deep emotions.

The Chairman, Dr. R. P. Howard, after the usual preliminary toasts, proposed that of "Our Guest." He gave a masterly analysis of Dr. Osler's work and character as a medical and scientific investigator and of his qualities as a man. He referred to his work on the relations of endocarditis, by which alone he had made himself and Montreal famous; and this was but one instance out of many. As a teacher of medical students and as a teacher of medical practitioners, by his exhibition and explanation of pathological specimens at the meetings of the Medico-Chirurgical Society, he had accomplished a valuable work during the past ten years. Brief reference was made to his kindness, his tendency to attribute only good in others, his peace-making disposition, and much more which needed no lengthy treatment before an audience who responded deeply to the sentiments he expressed.

Dr. Osler, on rising to reply, was overcome with emotion. He thanked those present from his heart for this demonstration of their regard. Perhaps on this occasion some allusion to his career might be pardoned. Whether it was true or not that certain bacilli were altered in character by different surroundings, it was so of men, and he was an example of that fact. His life had been profoundly modified by three men—one, an early teacher, who gave him his preliminary education;

another the late Dr. Bovell, formerly Professor of Physiology in Toronto; and the third Dr. Howard, of Montreal. He then alluded to the kindness he had always experienced at the hands of the profession in Montreal. He had been conscious of the imperfections of his teachings; he knew he had been undertaking too much. He referred to the struggle it had been to him to decide for Philadelphia. He could say, on leaving Montreal, like one of old, that he had "come in among them with a staff," and now he left "with two bands"—not bands laden with silver or gold or bank stock, but with two bands of good friends.

The toast of *The Medical Profession* was responded to by Drs. Fenwick, Hingston, Armstrong, and others. Dr. Hingston referring to Dr. Howard's remark that many would now be singing in their hearts, "O Willie, we have missed you," asked, "Would he no' come back again?" The hope was frequently expressed during the evening that Dr. Osler might yet in the future be induced to return to Montreal.

The Lay Medical Press was responded to by Drs. Ross, Roddick, Cameron, La Chapelle, and Mr. Richard White. Dr. Roddick remarked that Dr. Osler had probably contributed more to the medical press of Canada than any other man.

The Veterinary Profession was responded to by Professor McEachern, the head of the Montreal Veterinary College. He said that Dr. Osler had been so closely identified with their work that much of the reputation which their school had at home and abroad was due to him. His leaving Montreal was to them an enormous loss.

After other toasts, Dr. Mills, Dr. Osler's successor in the Chair of Physiology, proposed "The Committee." He remarked that he did so with much pleasure, inasmuch as this dinner, which they owed to the Committee's exertions, was specially suitable to the present occasion, giving, as it did, the opportunity of meeting Dr. Osler as a man, and seeing the exhibition once more of those qualities which had so endeared him to them all. In his speech that evening he had shown the same modesty, the same kind consideration for others, as of old and ever. Dr. Osler's kindly allusions to himself and others who now were trying to perform his duties in McGill College was an evidence of this. One quality which had not been specially referred to he would mention—that power of hope-inspiring. What student had ever entered Dr. Osler's office when Registrar without feeling on leaving that he "could add a cubit to his stature?"

All the speakers expressed pride at Dr. Osler's advancement, sad as was the separation that it caused.

The students of the Montreal Veterinary College presented Dr. Osler the day before his departure with an Address and a valuable testimonial.

The students of McGill College, on Friday evening, marched in a body to the station and gave Dr. Osler a hearty send-off with songs and ringing cheers.

Probably no public man has ever left Montreal whose departure has been more sincerely regretted by all with whom he was brought in contact.

THE NEW YORK STATE MEDICAL ASSOCIATION.—The first annual meeting of this Association, which was organized last winter to maintain the harmonious rela-

tions with the profession at large, which had been disrupted by the New York State Medical Society by the adoption of the New Code, will be held at the Murray Hill Hotel, Park Avenue, Fortieth and Forty-first Streets, New York City, November 18th, 19th, and 20th.

The programme, which has just been issued, contains a list of forty-three papers to be read, and includes the names of many of the most prominent men in the State. Dr. Henry D. Didama, of Syracuse, is the President of the Society.

THE PATHOLOGICAL SOCIETY OF PHILADELPHIA.—Dr. Delafield, of New York, will read a paper on Bronchopneumonia, at the next semi-annual meeting of the Pathological Society, to be held at the Hall of the College of Physicians, Thirteenth and Locust Streets, October 23d, at 8 o'clock P.M. The profession are invited.

CLOSING OF GOVERNMENT QUARANTINES.—The "Delaware Breakwater," "Cape Charles," "Sapelo," and "Tampa Bay" quarantine stations will be closed on the 31st inst.

INSPECTIONS DISCONTINUED.—The Sanitary Inspectors at Liverpool and London, Eng., and at Nogales, Arizona, have been discontinued. Those in Italy and France will be continued on duty for the present.

THE INTERNATIONAL MEDICAL CONGRESS IN 1887.—The next International Medical Congress, says the *Gazette Médicale de Paris* of Sept. 13th, will be held in Washington; but the choice offers some difficulties. Germany has a right to a Congress. "If the Congress," said Professor Virchow, "wishes to go to Berlin, the Medical Society of that city is disposed to give to all the members a reception worthy of them and of itself. We will, perhaps, not do so well as the Danish physicians, but we will do our best, and as cordially as possible. We think that no nation will refuse the hospitality which we are happy to offer."

M. Trélat made an objection which strongly contributed to the rejection of this proposition: "Assuredly," he said, "Berlin is a great scientific centre, where there are many eminent men. No doubt the reception would be worthy of the physicians who would give it, and of those to whom it would be given. But, besides these, our *confrères*, men of science and tact, having in view only the interest of our profession, there is a great city, a population which is, perhaps, not animated by the same sentiments, and one can understand that we, French physicians, might apprehend finding there on every hand, something which might recall our recent sorrows."

YELLOW FEVER.—Forty-two deaths from yellow fever occurred at Havana during the month of September, out of a total mortality of 503 deaths. Fifteen of these were in the Military Hospital and the remainder among private persons. Eight deaths from yellow fever occurred during the first week of the present month. One case of yellow fever developed on the bark "Wm. Fisher," from Aspinwall, which vessel was sent to Ship Island because of reported Chagres fever on board.

DANGER OF CHOLERA IN CUBA.—Sanitary Inspector Burgess of the Marine Hospital-Service, stationed at

Havana, states, that "this place is now much exposed to having cholera brought here by the Spanish mail steamers from Cadiz, which place is in very frequent communication with all Mediterranean ports. The foreign minister (Ministera de Ultramar) in Spain has entirely ridden over the Superior Board of Health of this Island and ordered the steamers of that particular line (the most dangerous of all) be given free pratique at once on their arrival, suffering no detention here whatever. This arbitrary and despotic order gives great dissatisfaction, as all other European vessels, even those from England, are put under more or less quarantine observation."

THE CHOLERA IN ITALY.—The U. S. Consul at Rome forwards a statement of the cholera epidemic in Italy for the week ending September 16th, showing 5293 cases, and 2812 deaths. He says, as in the preceding week, the disease was most violent in villages of the Province of Cuneo, in Piedmont; at Spezzia, in Province of Genoa; in villages in the Province of Bergamo, in Lombardy, and especially in the city of Naples. The death-rate is about 52 per cent. and is greater outside of Naples than in that city.

THE REPORT OF THE MARSEILLES CHOLERA COMMISSION.—The Marseilles correspondent of the London *Times* telegraphs that the Commission appointed for the purpose of investigating the mode of action of cholera and its method of propagation, namely, MM. Sicard, Taxier, Loucel, Livon, and Chareyre, draw the following conclusions:

"1. The cholera is transmissible to the rabbit, as demonstrated by injection into the veins, of the blood of a cholera patient at the algid period. The rabbit died in twenty-four hours, with lesions entirely like those of cholera.

"2. By cultivation, this blood after a few hours loses its infectious properties.

"3. Injections of choleraic blood in the period of reaction, or a very advanced algid period, produce no effect.

"4. The perspiration of a cholera patient, injected into the veins, does not transmit cholera.

"5. The stomachic or intestinal dejections, or the gastro-intestinal contents (this last full of comma-bacilli), may, after filtration, be injected with impunity into the cellular tissue of the peritoneum, the windpipe, the intestines, the rectum, and even into the blood.

"6. Comma-bacilli taken from the intestines of a cholera patient may be introduced into the intestines of a rabbit, and multiply there for more than eleven days, without producing any choleraic symptoms, and without necropsy revealing the anatomico-pathological lesions characteristic of cholera.

"7. There is thus every proof of the non-specificity of the comma-bacillus. We experimented on bacilli taken from the intestine, and with dejections kept from two to twelve days, the results being always negative. Everything also proves that this bacillus does not produce in the intestine toxical ptomaines which would be the cause of poisoning—namely, the lesion of the blood. The inference from more than fifty of these experiments is, the non-contagiousness of cholera, which we maintained from the very opening of the discussions.

"8. The minute examination made by us of the heart and large venous vessels of cholera patients enables us to affirm that there is no phlebotocarditis in cholera, as alleged by Morgagni, and still maintained by many enlightened physicians.

"9. Bulbar and medullary lesions, or those of the solar plexus, appear to us to be all secondary lesions.

"10. In our opinion, the initial lesion of cholera takes place in the blood.

"11. It essentially consists in the softening of the hæmoglobin, which makes some corpuscles lose first their clear shape, the fixity of their form, and the faculty of being indented. These corpuscles adhere together, lengthen out, stick together, and in very rapid cases especially, some are seen which are quite abnormal, while others appear quite healthy.

"12. The entire loss of elasticity of the corpuscles (which is shown by the preservation of the elliptic form when it has been stretched out) is, in our view, a certain sign of the patient's death. To stretch out a corpuscle, it is merely needful to alter the inclination of a plate on which a sanguineous current has been established in the field of the microscope. The fluid column stops at one point, whereas the rest continues to flow. An elongation of the intermediary corpuscles results, and then a rupture of the column. In the gap thus formed are some scattered corpuscles. If these revert to their primitive form the patient may recover. If they keep the elliptic form, we have seen death follow in every case, even if the patient's symptoms were not serious at the time of the examination of the blood. At the outset and in the rapid cases, which give the clearest results, corpuscles remaining healthy are seen alongside the unhealthy ones, and assume the shapes well shown in heaps of money, or maintain their liberty. When currents are created in the field of observation, the columns of healthy or less unhealthy corpuscles remain stationary, or nearly so; whereas the unhealthy corpuscles flow between the columns or the stationary masses like fluid lava. This we believe to be the characteristic lesion of cholera. By hourly examination of the blood of cholera patients the progress of the malady can be mathematically followed. First some corpuscles are unhealthy, then one-third, then half, then two-thirds, and lastly death supervenes. A very important fact in our view is that all the corpuscles are not simultaneously affected. We debar ourselves from substituting a fresh hypothesis for all those we have overthrown. We confine ourselves to saying that we know better than our predecessors what the cholera is not, but we do not know what it is."—*British Med. Journal*, October 4, 1884.

THE CHOLERA IN FRANCE.—The United States Consul at Marseilles gives a very interesting account of the cholera epidemic in that city, and the causes which led to its rapid spread. As it is well worth reading, we give a full synopsis of it. After stating that the persistency of the epidemic was the result of the return to the city of a large number of fugitives who, after living a more or less irregular life for a month or more, returned despite the earnest and repeated warnings of the press, and the medical and civic authorities, and reoccupied their badly ventilated and infected homes, the Consul continues: This return of the multitude of

destitute fugitives before the real end of the epidemic, has been recognized from the first as one of the most serious dangers to the scourge. Without this influx of new and unacclimated material, it is believed that the malady might be stamped out by the middle of September. How long it may be prolonged by the returning unfortunates, the event only can determine.

The Result of Hospital Treatment. At the beginning of the epidemic, the vacant Imperial Chateau Pharo was converted into a special hospital for the treatment of cholera patients. Its location, though central, is on a promontory near the entrance to the old and new ports, and being exposed to the fresh sea breezes, is as favorable as could be desired.

The building is surrounded by a large park. Its spacious saloons and corridors had long been vacant; it was free from contagion, and admirably adapted for the purposes of a special hospital. It is served by a special corps of devoted nuns, trained to hospital duties, and its medical staff has included some of the ablest physicians in the city. With all these circumstances in its favor, the Pharo has achieved the following record from the 26th of June until the 4th of August, the latter date being the latest to which the official record is now accessible:

Total number of choleraic cases admitted, . . .	503
Remaining under treatment,	61
Discharged as cured,	166
Died,	276

Deducting from the whole number of cases admitted those remaining under treatment at the date of the report from which these figures are condensed, it appears that out of 443 patients 166 were cured and 276 died; a death-rate of 62.4 per cent., which is 10 per cent. higher than the death-rate under similar conditions during the epidemic of 1865. The proportion of deaths to cases in the city at large, that is, the cases treated at the homes of the patients, can probably never be accurately ascertained, in many instances persons cured at their own residences were reported as having been ill with fever or other non-contagious diseases. But the death-rate by "arrondissements," which ranges from 0.62 per 1000 inhabitants in the quarter of the "Palace of Justice" to 5.76 per 1000 in the old, densely built quarter of l'Hotel Dieu, shows conclusively that it is the slums of a city, the narrow noisome streets, lined by swarming tenements, that the Asiatic scourge mainly attacks. In some of the cleaner, wealthier portions of the city subscriptions have been raised for the purpose of igniting large fires, at evening, along the principal thoroughfares, and much of the immunity of certain handsome streets is ascribed to this precaution, though with what justice it would be difficult to say. Great stress is laid by many persons, including some physicians, upon the fact that a great conflagration at Constantinople, some years ago, put an end to a cholera epidemic, even in quarters which were untouched by the fire, but it is difficult to account for this upon any scientific theory as more than a coincidence.

Cholera in Marseilles a Year Ago. Although the fact has not been officially announced, it is now learned, upon authority which seems unquestionable, that the cholera which prevailed in Egypt during the summer of 1883, was imported to Marseilles and caused

a number of deaths. During the month of July, last year, the total deaths in this city from intestinal diseases was 253, as compared with 159 for the same month of the preceding year, and this increase probably represents very accurately the number of deaths from choleraic disease. The malady was, however, of a comparatively benign type, and soon yielded to skilful treatment. By a discreet, and, perhaps, justifiable collusion between the mayor, two hospital physicians, and several Sisters of Charity, who acted as nurses, the nature of the disease was concealed, and a cholera panic, with all its deplorable effects upon commerce and general business, was averted. There is no reason to doubt that every possible precaution in respect to isolation of the choleraic patients in the main hospital, burial of the dead, and disinfection of their bedding and effects, was thoroughly enforced; and if this preliminary touch of the epidemic had any substantial effect, it was to suggest the active sanitary measures which were enforced in Marseilles early this summer, and which brought the city to such a complete state of preparation prior to the outbreak of the malady at Toulon.

The Microbe Controversy.—Notwithstanding all the elaborate and faithful observations and investigations which have been and are still being made by physicians of the highest ability and fullest experience, it seems probable that the present epidemic will leave the various disputed points nearly where they were at the beginning of the controversy. It seems impossible for the most eminent authorities to agree upon anything beyond the scope of ordinary observation. At the outbreak of the epidemic, and until the eminent Prussian savant, Dr. Koch, published the results of his observations at Toulon and Marseilles, it was popularly supposed to be settled that the germ of cholera is a microscopic bacillus or microbe, which is generated in great numbers in the intestines of cholera patients, and being expelled thence with the dejections, finds its way into waters, the dust of streets, etc.; and, being thus inhaled or swallowed with food or drink by other persons, transmits the germ of contagion to new cases. But Messrs. Roux and Strauss, two eminent French surgeons, now practising in the hospitals at Toulon, and who studied the disease thoroughly last year in Egypt, have made an official report, declaring that they find the microbe to be the result, rather than the germ, of cholera. In certain "foudroyant" cases (*i. e.*, those in which death comes most quickly, unaccompanied by vomiting or dejections) they have found no microbe at all; while in others, the number of bacilli is in proportion to the duration of the disease.

They state that similar microbes are generated in the intestines by typhoid fever and other zymotic diseases, and that they are found by myriads in water, which, being drunk, does not create cholera. Animals have been fed and inoculated with bacilli taken from the alimentary canal of diseased cholera patients without producing any effect whatever. How much this all proves or disproves, it is not the province of this report to inquire; the report of Messrs. Roux and Strauss is merely cited to show how far from settled are the most fundamental propositions concerning the nature and transmission of the cholera-germ.

(To be concluded.)

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FROM JULY 1 TO SEPTEMBER 30, 1884.

BAILHACHE, P. H., *Surgeon*.—To proceed to Delaware Breakwater Quarantine Station as inspector, September 10, 1884; to investigate reported pollution of Potomac River water supply, September 20, 1884.

MILLER, T. W., *Surgeon*.—Granted leave of absence for fourteen days, July 10, 1884; detailed as President of Board of Examiners, September 2, 1884.

WAYMAN, WALTER, *Surgeon*.—Detailed as member of Board of Examiners, September 2, 1884.

LONG, W. H., *Surgeon*.—Granted leave of absence for twenty days, July 30, 1884.

PURVIANCE, GEORGE, *Surgeon*.—Detailed as recorder of Board of Examiners, September 2, 1884.

STONER, G. W., *Passed Assistant Surgeon*.—To proceed to Lewes, Delaware (Delaware Breakwater), as inspector, July 25, 1884; to act as Quarantine Officer at Delaware Breakwater, July 31, 1884.

FISHER, J. C., *Passed Assistant Surgeon*.—Granted leave of absence for thirty days, August 21, 1884.

GOLDSBOROUGH, C. B., *Passed Assistant Surgeon*.—Granted leave of absence for thirty days, July 12, 1884. Leave of absence extended thirty days on Surgeon's certificate of disability, August 11, 1884. Leave of absence extended thirty days without pay, September 11, 1884.

HEATH, W. H., *Passed Assistant Surgeon*.—Granted leave of absence for thirty days, September 8, 1884.

GUIERAS, JOHN, *Passed Assistant Surgeon*.—Granted leave of absence for thirty days, September 24, 1884.

BANKS, C. E., *Passed Assistant Surgeon*.—Granted leave of absence for thirty days, August 27, 1884.

BENNETT, P. H., *Assistant Surgeon*.—To proceed to Buffalo, New York, for temporary duty, September 19, 1884.

GLENNAN, A. H., *Assistant Surgeon*.—To proceed to Mobile, Ala., for temporary duty, July 7, 1884.

RESIGNATION.

FISHER, J. C., *Passed Assistant Surgeon*.—Resignation accepted by the Secretary of the Treasury, to take effect September 30, 1884.—August 21, 1884.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM OCTOBER 7 TO OCTOBER 13, 1884.

MCKEE, JAMES C., *Major and Surgeon*.—Granted leave of absence for one month, with permission to apply, at Division Headquarters, for one month's extension.—*Par. 1, S. O. 149, Department of California*, October 3, 1884.

HAPPERSETT, JOHN C. G., *Major and Surgeon*.—Will be relieved from duty in Department of the East, and ordered for duty at Willet's Point, New York.

WOODRUFF, EZRA, *Captain and Assistant Surgeon*.—Granted leave of absence for four months.—*S. O. 235, A. G. O.*, October 7, 1884.

LORING, LEONARD Y., *Captain and Assistant Surgeon*.—From Department of the East to Department of California.

HARVEY, PHILIP F., *Captain and Assistant Surgeon*.—From Department of Dakota to duty in Attending Surgeon's Office, Washington, D. C., relieving Robert W. Shufeldt, Captain and Assistant Surgeon, who, on being relieved, will report to Commanding General Department of Missouri for duty.—*S. O. 237, A. G. O.*, October 9, 1884.

POWELL, J. L., *Captain and Assistant Surgeon*.—Granted leave of absence for one month, on Surgeon's certificate of disability.

SPENCER, WM. G., *Captain and Assistant Surgeon*.—Granted leave of absence for one month.—*S. O. 204, Headquarters Department of the East*, October 8, 1884.

MCCREERY, GEORGE, *First Lieutenant and Assistant Surgeon*.—Assigned to duty at Fort Meade, Dakota Territory.—*S. O. 115, Headquarters Department of Dakota*, October 6, 1884.

TAYLOR, A. W., *First Lieutenant and Assistant Surgeon*.—Assigned to duty at Fort Omaha, Nebraska.—*Par. 3, S. O. 87, Headquarters Department of the Platte*, October 3, 1884.